

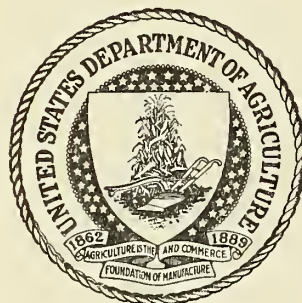
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# FOOD PRODUCTION ACT

## 1919

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### ESTIMATES OF APPROPRIATIONS

REQUIRED TO CARRY OUT, DURING THE FISCAL  
YEAR ENDING JUNE 30, 1919, THE PURPOSES OF  
THE ACT APPROVED AUGUST 10, 1917, ENTITLED  
"AN ACT TO PROVIDE FURTHER FOR THE NATIONAL  
SECURITY AND DEFENSE BY STIMULATING AGRI-  
CULTURE AND FACILITATING THE DISTRIBUTION  
OF AGRICULTURAL PRODUCTS" (40 Stat., P. 273).

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PREPARED FOR THE USE OF THE COMMITTEE ON AGRICULTURE  
HOUSE OF REPRESENTATIVES



WASHINGTON : GOVERNMENT PRINTING OFFICE : 1918

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## FOOD PRODUCTION ACT (1919).

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The letter from the Secretary of Agriculture to the Secretary of the Treasury transmitting an estimate of appropriations required by the Department of Agriculture for the continuation and extension during the fiscal year 1919 of the activities under the Food Production Act is as follows:

WASHINGTON, D. C., *March 8, 1918.*

THE SECRETARY OF THE TREASURY.

SIR: I have the honor to transmit herewith an estimate for an appropriation of \$19,730,893 to enable the department to carry out, during the fiscal year 1919, the purposes of the act entitled "An act to provide further for the national security and defense by stimulating agriculture and facilitating the distribution of agricultural products," approved August 10, 1917 (40 Stat., p. 273). The estimate is as follows:

To enable the Secretary of Agriculture to carry out, during the fiscal year ending June 30, 1919, the purposes of the act entitled "An act to provide further for the national security and defense by stimulating agriculture and facilitating the distribution of agricultural products," approved August 10, 1917 (40 Stat., p. 273), there is hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, the following sums for the purposes indicated:

- (1) For the prevention, control, and eradication of the diseases and pests of live stock; the enlargement of live-stock production, and the conservation and utilization of meat, poultry, dairy, and other animal products, \$1,269,655.
- (2) For procuring, storing, and furnishing seeds, as authorized by section 3 of the act, \$8,000,000, and this fund may be used as a revolving fund until June 30, 1919.
- (3) For the prevention, control, and eradication of insects and plant diseases injurious to agriculture, and the conservation and utilization of plant products, \$911,300.
- (4) For increasing food production and eliminating waste and promoting conservation of food by educational and demonstrational methods, through county, district, and urban agents and others, \$6,100,000.
- (5) For gathering authoritative information in connection with the demand for, and the production, supply, distribution, and utilization of food, and otherwise carrying out the purposes of section 2 of the act; extending and enlarging the market news service; and preventing waste of food in storage, in transit, or held for sale; advise concerning the market movement or distribution of perishable products; for enabling the Secretary of Agriculture to inspect and certify perishable agricultural products, as provided in the agricultural appropriation act for the fiscal year 1919, \$2,368,958.
- (6) For miscellaneous items, including the salaries of assistant secretaries appointed under the act approved August 10, 1917; special work in crop estimating; aiding agencies in the various States in supplying farm labor; enlarging the informational work of the Department of Agriculture; and printing and distributing emergency leaflets, posters, and other publications requiring quick issue or large editions, \$1,080,980, of which sum not exceeding \$15,000 shall be available for rent in the District of Columbia.

The food production act was approved on August 10, 1917, and provided an appropriation of \$11,346,400 for carrying out its provisions during the fiscal year 1918. The act, by its terms, will continue in effect during the existence of a state of war with Germany, but the appropriation made by section 8 is limited to the fiscal year ending June 30, 1918. When the regular estimates of the department were under consideration last fall it was decided to make no provision in them for the continuation of the emergency activities under the food production act. It was thought best to defer consideration of this matter until the needs of the next fiscal year could be more accurately determined. The estimates presented herewith have been worked out very carefully and provide for the continuation of the emergency work already under way, with such extensions as existing conditions seem to warrant.

Very truly yours,

D. F. HOUSTON, *Secretary.*

The estimates in detail follow.





# I.

For the prevention, control, and eradication of the diseases and pests of live stock; the enlargement of live-stock production; and the conservation and utilization of meat, poultry, dairy, and other animal products, \$1,269,655.

## BUREAU OF ANIMAL INDUSTRY.

### 1. ERADICATION OF CATTLE TICKS.

Allotment, 1918..... \$191,190  
 Estimate, 1919..... 191,190

The importance of the tick-eradication work, especially in the present emergency, needs no emphasis. It is highly essential that the activities inaugurated under the provisions of the food production act be continued during 1919 in order that the preliminary organization work may be advanced as rapidly as possible and the area under quarantine be reduced as rapidly as possible. Since the beginning of the tick-eradication work in 1906, 379,312 square miles of territory had been placed in the free area and released from quarantine up to December 31, 1917. Forty thousand one hundred and eleven square miles were released during the fiscal year ended June 30, 1917, and 67,308 square miles were released during the first half of the present fiscal year. On January 1, 1918, there were still under quarantine 349,253 square miles.

#### *Eradication of cattle ticks.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Veterinarians.....	\$3,250		11
Do.....	1,800	25	25
Do.....	1,740	20	20
Do.....	1,620	20	20
Clerks, class 2.....	1,400		21
Clerks, class 1.....	1,200		13
Clerk.....	1,020		11
Salaries.....		\$112,200	\$115,371
Other objects of expenditure:			
Traveling expenses.....		72,800	74,000
Miscellaneous items.....		6,190	1,819
Total.....		191,190	191,190

<sup>1</sup> 4 months.

<sup>2</sup>  $4\frac{2}{3}$  months.

### 2. ERADICATION OF HOG CHOLERA.

Allotment, 1918..... \$202,965  
 Estimate, 1919..... 202,965

The work of the Bureau of Animal Industry looking to the control of hog cholera is a very important factor in the campaign to stimulate increased production. During the past four years losses from this disease have been reduced over 50 per cent, and it is estimated that, as a result of the department's activities, \$35,000,000 is being saved to the farmers of the country annually. The funds allotted for this work under the food production act during the current fiscal year have made it possible to extend the work to 11 States not previously covered by the regular appropriations. In the principal hog-raising States of the Middle West the work is conducted on a State-wide basis, while other States in which swine production is less important are receiving such assistance as the extent of the industry demands. It is proposed during the next fiscal year to continue the work in the 31 States where it is now conducted and to extend the campaign to 5 additional States.



*Eradication of hog cholera.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Veterinarians.....	\$2,400		<sup>1</sup> 1
Do.....	1,800	<sup>2</sup> 15	<sup>3</sup> 6
Do.....		<sup>4</sup> 25	<sup>5</sup> 10
Do.....	1,740	<sup>2</sup> 2	<sup>2</sup>
Do.....	1,620	<sup>6</sup> 58	<sup>7</sup> 25
Do.....	1,500	<sup>2</sup> 71	<sup>8</sup> 71
Clerks, class 1.....	1,200		<sup>1</sup> 3
Clerk.....	1,020		<sup>1</sup> 1
Salaries.....		\$128,625	\$99,490
Other objects of expenditure:			
Traveling expenses.....		72,000	58,025
Miscellaneous items.....		2,340	9,050
Total.....		202,965	166,565

<sup>1</sup> 4 months.  
<sup>2</sup> 5 months.

<sup>3</sup> 1 for 4 months.  
<sup>4</sup> 7 months.

<sup>5</sup> 3 months.  
 35 for 5 months; 23 for 7 months.

<sup>7</sup> 20 for 3 months.  
<sup>8</sup> 15 for 3 months.

## 3. ERADICATION OF ABORTION, INFLUENZA, STRANGLES, ETC.

Allotment, 1918.....	\$61,393
Estimate, 1919.....	175,000
Increase.....	113,607

It is estimated that the losses from contagious abortion aggregate \$20,000,000 annually, while the losses, direct and indirect, from influenza, which affects horses and mules, amounts to approximately \$15,000,000 yearly. Anthrax and blackleg also are responsible for large losses to live-stock owners. The work now under way with reference to these diseases gives promise of very satisfactory results.

During the current year veterinary inspectors have been assigned to 15 of the Eastern and Southern States to work in cooperation with live-stock owners and officials in the control of contagious abortion. It is highly important that this work be extended to the States west of the Mississippi River.

Efforts are being made to control influenza in every horse-producing State in the country, and the results indicate that, if the work is continued, the losses from this disease will be considerably reduced and there will be a corresponding increase in the supply of horses and mules for war and domestic purposes. This work has been of decided value to the War Department in connection with the selection and transportation of horses and mules. It was not begun, however, until about the 1st of October, and therefore a proportionate part of the increase recommended for next year will be used to provide for the effective prosecution of the campaign on a full-year basis. The remainder of the increase will be needed to enlarge the personnel in sections where the territory involved can not be adequately covered by the existing field force.

*Eradication of abortion, influenza, strangles, etc.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Veterinarians.....	\$2,760		<sup>1</sup> 1
Do.....	1,800	11	10
Do.....	1,740	8	5
Do.....	1,700	28	
Do.....	1,620	8	5
Do.....	1,500	10	6
Lay inspectors, grade 2.....	1,200	3	3
Lay inspectors, grade 1.....	1,000	3	3
Clerks, class 1.....	1,200	3	<sup>1</sup> 1
Clerks.....	1,020		<sup>1</sup> 1
Salaries.....		\$119,480	\$42,630
Other objects of expenditure:			
Traveling expenses.....		50,160	16,099
Miscellaneous items.....		5,360	2,664
Total.....		175,000	61,393

<sup>1</sup> 4 months.





## 4. PRODUCTION OF BEEF CATTLE.

Allotment, 1918.....	\$15,000
Estimate, 1919.....	105,000
Increase.....	90,000

It is proposed to place beef cattle specialists in different sections of the country to assist farmers and cattlemen in conserving all good breeding cows and to emphasize the necessity of breeding for a maximum calf crop, preparing permanent pastures, building silos, and preserving all available feedstuffs. The corn belt possesses an enormous supply of feed in its corn fodder which has never heretofore been completely utilized. It is estimated that there is in the Southeast this year sufficient feed to take care of between 400,000 and 500,000 cattle in addition to the number normally provided for. It is highly important that the work along this line be greatly extended during the fiscal year 1919.

*Production of beef cattle.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Agents in animal husbandry.....	\$1,800	35	12
Animal husbandman.....	1,800		11
Extension animal husbandmen.....	1,500		12
Scientific assistant in animal husbandry.....	1,380		14
Salaries.....		\$63,000	\$9,280
Other objects of expenditure:			
Traveling expenses.....		35,000	5,720
Miscellaneous items.....		7,000	
Total.....		105,000	15,000

18 months.

## 5. LIVE-STOCK PRODUCTION IN THE GREAT PLAINS REGION.

Estimate, 1919.....	\$100,000
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A careful study of the situation in the Great Plains region during the past year indicates the desirability of placing the agriculture of that section as far as possible on a live-stock basis. If the large crops of feed which were produced there during years of sufficient rainfall had been stored in silos the drought which caused such large losses during 1917 probably could have been borne without serious difficulties. Straight-crop farmers in that region have had nothing to carry them over periods of drought. If they had live stock and means to support such stock they could tide over these periods. The only way in which this can be satisfactorily done is to utilize silos on an extensive scale and put up such roughage as can be cured.

The situation in all the drought area from the Mexican border to the Canadian boundary is one which should receive close and persistent attention. If rains come in time to insure a crop in 1918, every effort should be made to plan a cropping system which will insure supplies of feed. The activities of the department and of the colleges should be directed toward the development of a rational system of agriculture, based on live stock, in the entire area. As soon as a crop is assured a strong campaign should be inaugurated for the construction of silos, especially of the pit type, on every farm where the conditions are favorable. Any farmer who has an equity in his property should be able to get sufficient credit to put in a pit silo after the crop is in sight. If rains do not come in time to insure ample pasturage during 1918, it will probably be necessary for the cattle owners in the Great Plains region, especially in Texas and other sections in the Southwest, to sell their cattle, which are being carried through the winter on borrowed money in the hope that pasture will be at hand when spring arrives. If the pasture is not available these cattle may be thrown on the market. Those remaining in the Southwest are the best of the herds existing before the drought and represent a fine collection of beef breeding animals. The department should be ready, if such a contingency arises, to throw a large force of men into that section and to develop the work done there last summer on an extensive scale with a view to save as many of these cattle as possible. If this emergency does not arise, these men can and will be effectively used in carrying out the work of stimulating the development of a rational system of agriculture in the Great Plains region based on live stock.



Live-stock production in the Great Plains region.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries: Agents in animal husbandry.....	\$2,000	30	
Salaries.....		\$60,000	
Other objects of expenditure:			
Traveling expenses.....		30,000	
Miscellaneous items.....		10,000	
Total.....		100,000	

6. PRODUCTION OF PORK.

Allotment, 1918.....	\$117,060
Estimate, 1919.....	150,000
Increase.....	32,940

The department is making every effort to increase the production of pork in the United States by at least 15 per cent during the year 1918. An intensive campaign is now under way in eight corn-belt States and reports from the extension divisions of the agricultural colleges indicate that many farmers have begun raising hogs for the first time. In seven Southern States emergency men have been placed as assistants to the regular swine husbandry agents to stimulate pork production and to increase the pig club membership. It is highly important that this work be continued and extended during the next fiscal year. Pork constitutes more than one-half of all the meat produced in the United States and it is the mainstay of the ration of the laboring man and the soldier. The need for increasing the supply of fats is particularly acute. Animal fats can be increased more quickly by increasing the number of hogs than in any other manner.

With the increased appropriation, it is proposed to systematize the pork production campaign, assigning an agent of the department to each of the 25 pork-producing States, mainly in the corn belt and in the South.

Production of pork.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries:			
Agents in animal husbandry.....per annum	\$2,400		11
Do.....do.....	2,200		21
Do.....do.....	2,100		33
Do.....do.....	2,000		42
Do.....do.....	1,920		61
Do.....do.....	1,800	25	65
Do.....do.....	1,500	25	813
Extension animal husbandmen.....do	1,500		98
Scientific assistants in animal husbandry.....do	1,380		1014
Agents in animal husbandry.....do	1,380		61
Do.....do.....	600		42
Do.....per diem	12	7100	1241
Do.....do.....	10		1322
Do.....do.....	8		1415
Do.....do.....	4		161
Stenographers.....per annum	1,200		45
Clerks (typewriters).....do	1,100		61
Salaries.....		\$96,900.00	\$83,391.00
Other objects of expenditure:			
Traveling expenses.....		45,000.00	23,100.00
Miscellaneous items.....		8,100.00	4,569.00
Total.....		150,000.00	117,060.00

1 1 month. 4 8 months. 7 12 days. 10 6 months. 13 Average 50 days.  
2 7½ months. 5 6 months. 8 11 for 4 months. 11 1 for 7 months, 1 for 4 days. 14 30 days.  
3 6½ months. 6 7 months. 9 6 for 8 months. 12 Average 40 days. 15 60 days.





## 7. PRODUCTION OF POULTRY.

Allotment, 1918.....	\$129,600
Estimate, 1919.....	168,000
Increase.....	38,400

The object of this work is to produce a large supply of poultry and eggs for domestic consumption in order to release larger quantities of beef and pork for the use of our army and the allies. Poultry production offers one of the quickest means of increasing the meat-food supply of the country. Every effort should be made to encourage the production of poultry on general farms and in back yards in order to turn waste material into food for human consumption. It is highly important that the poultry stocks of the country be maintained to the point where it will be possible not only to meet the demand for poultry products from European countries for a considerable period after the war but also to furnish the necessary breeding stock to replenish their depleted supply.

Poultry-production work is under way at the present time in 17 States in cooperation with the State forces. Most of the men so far placed have been assigned to the great poultry-producing sections of the Middle West, which present the greatest opportunity for securing the largest and most immediate results. Arrangements also are under way to assign men to 18 or 20 additional States in the near future. Special emergency literature, such as posters urging the increased production of poultry, the production of infertile eggs, and the like, a bulletin on "Back Yard Poultry Keeping," and other material for use in this campaign has been issued. The response by poultrymen has been quite general, and helpful cooperation has been received from women's organizations and commercial associations. The agricultural and general press also is lending valuable assistance and the work is being further advanced through educational exhibits at a number of the largest poultry shows throughout the country.

*Production of poultry.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
<b>Salaries:</b>			
Extension poultry husbandmen.....	\$2,000		1
Do.....	1,800	5	5
Do.....	1,620		14
District poultry leaders.....	1,600	6	
Extension poultry husbandmen.....	1,500	42	283
Scientific assistant in poultry husbandry.....	1,350		21
Assistant in incubation and brooding.....	1,200		21
<b>Salaries.....</b>		\$81,600.00	\$60,412.00
<b>Other objects of expenditure:</b>			
Traveling expenses.....		79,500.00	60,000.00
Miscellaneous items.....		6,900.00	9,188.00
<b>Total.....</b>		168,000.00	129,600.00

<sup>1</sup> 8 months.<sup>2</sup> 6 months.

## 8. PRODUCTION OF SHEEP.

Allotment, 1918.....	\$12,000
Estimate, 1919.....	60,000
Increase.....	48,000

That mutton and wool production in this country can be increased greatly admits of no doubt. This can be accomplished by developing sheep husbandry on farms, especially in the Eastern and Southern States. The department is aiding in the transfer of sheep from those sections of the country where there is a shortage of feed or where range is no longer available to those regions where the conditions are favorable to sheep production. There is room for a greater expansion of sheep production in the settled farming areas, and this result can be secured without in any way diminishing the supplies of other animal products. With the emergency funds available during the current year specialists are being placed in the following sections to stimulate the production of sheep: Minnesota, Wisconsin, North Carolina, Georgia, Florida, Louisiana, Nebraska, and the Upper Peninsula of Michigan. With the additional funds



recommended, it is proposed to extend the work to other States where it is clear that satisfactory results can be secured.

Production of sheep.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries :			
Agents in animal husbandry.....per annum..	\$1,800	20	<sup>1</sup> 7
Do.....do.....	1,500		<sup>1</sup> 1
Do.....per diem..	12		<sup>2</sup> 16
Salaries.....		\$36,000	\$9,500
Other objects of expenditure: Traveling expenses.....		24,000	2 500
Total.....		60,000	12,000

<sup>1</sup> 4 months.

<sup>2</sup> 25 days.

9. MAKING COTTAGE CHEESE ON THE FARM.

Allotment, 1918.....	\$52,950
Estimate, 1919.....	80,000
Increase.....	27,050

Cottage cheese is a very cheap substitute for meat and its food value is approximately equal to that of meat. In almost all sections of the country the quantity of meat consumed on the farm could be considerably reduced if cottage cheese and other home-made dairy products were used more liberally. Much skim milk which is now fed to live stock could be used to better advantage as human food. The experience of the department during the present year clearly indicates the desirability of carrying on an active campaign in rural communities to interest farm women in the making of cottage cheese. It is believed that effective results can be secured in this way. With the emergency funds available this year an agent will be assigned to each State to demonstrate proper methods of making cottage cheese and to give definite information regarding its use. These agents will carry direct to the home-demonstration forces the results of the investigations of the Dairy Division along this line, and the work will be done through and in close cooperation with the extension authorities. The funds at present available are sufficient only for the prosecution of the work during the last four months of the current fiscal year. The additional funds recommended are needed in order to provide for its continuation for a period of approximately eight months during the fiscal year 1919.

Making cottage cheese on the farm.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries:			
Dairy expert.....	\$3,750	1	1
Dairy manufacturing specialists.....	1,980	1	1
Do.....	1,500		<sup>1</sup> 2
Do.....	1,400	2	2
Do.....	1,200	3	3
Scientific assistant in dairying.....	1,260	1	1
Agents in dairying.....	1,500	32	<sup>1</sup> 35 <sup>2</sup> 2
Salaries.....		\$47,070	\$28,475
Other objects of expenditure:			
Traveling expenses.....		30,800	23,300
Miscellaneous items.....		2,130	1,175
Total.....		80,000	52,950

<sup>1</sup> 3 months.

<sup>2</sup> 5 months.





10. UTILIZATION OF CREAMERY BY-PRODUCTS.

Allotment, 1918.....	\$21, 850
Estimate, 1919.....	37, 500
Increase.....	15, 650

It is estimated that, with the proper utilization of the skim milk and buttermilk obtained incident to the manufacture of creamery butter, it will be possible to add annually approximately 2,000,000,000 pounds to the food supply of the Nation in the form of cottage cheese. These by-products also could be used in the manufacture of condensed skim milk, a wholesome and nutritious food, the demand for which is greatly increasing, as well as casein, which is now very useful in the arts and may later become valuable as a food. It is proposed to secure the services of 25 experienced creamery men for a period of six months for the purpose of assisting creamery operators to devise methods for the proper care of these by-products, both on the farm and in transit, and to give instructions in the utilization of such by-products in the manufacture of foods.

Utilization of creamery by-products.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries:			
Dairy manufacturing specialists.....	\$2,000	<sup>1</sup> 5	
Do.....	1,980		<sup>2</sup> 1
Do.....	1,920		<sup>3</sup> 1
Do.....	1,800	<sup>1</sup> 14	<sup>4</sup> 19
Do.....	1,500		<sup>3</sup> 1
Agents in dairying.....	1,800	<sup>1</sup> 6	<sup>4</sup> 2
Salaries.....		\$20,000	\$13,620
Other objects of expenditure:			
Traveling expenses.....		15,500	6,280
Miscellaneous items.....		2,000	1,950
Total.....		37,500	21,850
<sup>1</sup> 1 month.	<sup>2</sup> 3 months.	<sup>3</sup> 4 months.	<sup>4</sup> 6 months.



## II.

For procuring, storing, and furnishing seeds, as authorized by section three of the act, \$8,000,000, and this fund may be used as a revolving fund until June thirtieth, nineteen hundred and nineteen.

### BUREAU OF PLANT INDUSTRY.

#### 1. PURCHASE AND SALE OF SEED.

Allotment, 1918.....	\$2, 500, 000
Estimate, 1919.....	8, 000, 000
Increase.....	5, 500, 000

The \$2,500,000 appropriation under the food production act for procuring, storing, and furnishing seeds for sale to farmers for cash at cost is being expended as follows: \$890,000 for the purchase and sale of seed corn, grain sorghum, cotton, and peanuts in Texas, where the situation is acute as a result of the severe drought during the summer of 1917; \$800,000 for seed of barley, oats, and flax in drought-stricken portions of North Dakota and Montana; \$500,000 for corn of the 1916 crop suitable for seed purposes in Indiana, Nebraska, Wisconsin, New York, Ohio, and Connecticut; and \$200,000 for sorghum seed for sale in Kansas and Oklahoma, leaving a balance of \$110,000 to meet miscellaneous emergency demands.

The urgent deficiency bill now pending in Congress contains an additional appropriation of \$4,000,000, which may be used as a revolving fund until June 30, 1918, for the purchase and sale of seed. As the appropriation of \$2,500,000 also is limited to the current fiscal year, it will be necessary to make provision for the purchase and sale of seed to farmers in regions where emergency conditions prevail during the fall of 1918 and the spring of 1919. After careful consideration, it is believed that at least \$8,000,000 should be made available for this purpose. It is impossible, of course, to forecast the situations that may arise, but it seems highly essential that the department should have sufficient funds available to meet promptly any emergencies that may develop. The purchase and sale of seed by the the Federal Government not only assists materially in conserving the supply but also results, to some extent at least, in stabilizing the price of seed.

#### *Purchase and sale of seed.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Clerks.....per annum..	\$1, 800. 00	10	7
Assistants.....per month..	150. 00	5	5
Do.....do.....	125. 00	15	10
Do.....do.....	120. 00		5
Do.....do.....	100. 00		5
Scientific assistant in agronomy and special assistants.....do.....	75. 00	5	5
Collaborators.....per annum..	1	20	15
Wages:			
Miscellaneous and temporary laborers.....per diem..	\$2. 00-2. 75	500	150
Do.....per hour..	.28- .65	10	10
Salaries.....		\$25, 000. 00	\$10, 000. 00
Wages.....		25, 000. 00	10, 000. 00
Other objects of expenditure:			
Traveling expenses.....		100, 000. 00	20, 000. 00
Miscellaneous items, including purchase of seed.....		7, 850, 000. 00	2, 460, 000. 00
Total.....		8, 000, 000. 00	2, 500, 000. 00





### III.

For the prevention, control, and eradication of insects and plant diseases injurious to agriculture, and the conservation and utilization of plant products, \$911,300.

#### BUREAU OF PLANT INDUSTRY.

##### 1. CEREAL-SMUT ERADICATION.

Allotment, 1918.....	\$98,500
Estimate, 1919.....	110,000
Increase.....	11,500

The department is conducting an active campaign to control the ravages of grain smuts, which cause annual losses of wheat, oats, barley, and rye aggregating 90,000,000 bushels. Since last September from 17 to 42 field men have been employed constantly in 17 States, working in cooperation with the State extension forces, and have succeeded in convincing thousands of growers of the practicability of seed treatment as a means of preventing smut. The treatment of not less than 4,000,000 bushels of seed grain has been secured as a result of these efforts. County agents have been instructed by actual demonstrations in the details of seed treatment, and these demonstrations also have been carried into the public and movable schools. The campaign already has aroused widespread interest, and, in order to secure the most effective results, it should be continued for at least another year and, if possible, for the period of the war. It is believed that another year's work will result in a reduction of the present annual losses by from 50 to 60 per cent. Furthermore, the continuation of the work will develop more fully the facts concerning the distribution of the different smut species and of the losses caused by each, so that the department's efforts may be concentrated more effectively on those localities where the losses are greatest.

##### *Cereal-smut eradication.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Agent.....per annum.....	\$1,350	1	1
Clerks.....do.....	1,200	2	2
Field assistants.....per month.....	125	<sup>a</sup> 40	<sup>a</sup> 60
Do.....do.....	100	<sup>a</sup> 1	<sup>a</sup> 1
Do.....do.....	90		<sup>a</sup> 1
Messenger, assistant, and collaborator.....per annum.....	480	1	2
Do.....do.....	12	1	2
Do.....per diem.....	5		2
Salaries.....		\$55,000.00	\$52,500.00
Other objects of expenditure:			
Traveling expenses.....		50,000.00	43,500.00
Miscellaneous items.....		5,000.00	2,500.00
Total.....		110,000.00	93,500.00

<sup>1</sup> 9 months.

<sup>2</sup> Part time.

<sup>a</sup> Temporary.



## 2. PEANUT CONSERVATION AND UTILIZATION.

Allotment, 1918.....	\$7, 500
Estimate, 1919.....	15, 000
Increase.....	7, 500

Since the production of peanuts is being undertaken over extensive areas by persons who are relatively unfamiliar with the crop, it is important that experienced men shall be assigned to assist the demonstration agents in securing the adoption of the best methods of harvesting and handling in order that the product may be in suitable condition for human consumption or for the manufacture of oil.

The funds under the food production act for similar work during this fiscal year became available too late in the season to organize the field work effectively. A campaign of instructions, however, was carried on during the harvesting and threshing period and a number of articles were published in newspapers and the agricultural press in various sections of the South. A special circular on the subject also was issued by the department.

The peanut is becoming of such great importance as a food crop that every effort should be made to conserve and utilize it to the best advantage. The present outlook is that a large increase in acreage may be expected in regions where the peanut industry is new, and this makes it important that considerable work be undertaken in the demonstration of proper methods of harvesting, stacking, and handling peanuts. Considerable loss usually occurs in all new regions because of lack of knowledge of the proper methods of handling the crop. Actual demonstrations of the methods in practice among the best growers should add greatly to the value of the peanuts grown. It is planned to undertake work next year in Virginia, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Texas, Arkansas, and Oklahoma, in close cooperation with the extension forces in those States.

*Peanut conservation and utilization.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Horticulturist.....per annum..	\$2, 520	1 1	1 1
Do.....do.....	2, 000	1 1	1 1
Field assistants.....per month..	160	1 5	1 5
Do.....do.....	150	1 13	1 13
Salaries.....		\$9, 050. 00	\$3, 500. 00
Other objects of expenditure:			
Traveling expenses.....		5, 000. 00	3, 000. 00
Miscellaneous items.....		950. 00	1, 000. 00
Total.....		15, 000. 00	7, 500. 00

<sup>1</sup> Temporary.

## 3. CONTROL OF COTTON, TRUCK, AND FORAGE-CROP DISEASES.

Allotment, 1918.....	\$26, 400
Estimate, 1919.....	137, 550
Increase.....	111, 150

Under an allotment of \$19,200 from emergency funds, efforts have been made during the current fiscal year by specialists in plant diseases, in cooperation with potato specialists, to locate for bean growers in the Northeastern States a supply of disease-free seed and to determine the soundness of seed potatoes in the Central and North-Central States. Cooperation is also being maintained with the food-products inspection service of the Bureau of Markets through the detail of pathologists to study diseases of vegetables in the terminal markets, to advise the inspectors relative to their identification and effect upon keeping quality, and to take steps toward lessening these losses. At the request of the War Department, men also have been detailed to advise depot quartermasters relative to the inspection of perishables for the presence of plant diseases, and a considerable saving has been effected through their work.

The department is facing a greatly increased demand from farmers, through their farm bureau organizations and county agents, for practical assistance in the control of plant dis-





eases, which cause enormous annual losses. For all the diseases included under this project effective control measures already are available. It is planned to conduct the work in close cooperation with the State extension agencies and to expand the pathological force of the Bureau of Plant Industry to a point where it can effectively meet the demands made upon it. The \$137,550 recommended for next year, if allowed, will be used as follows:

- (a) *Cotton diseases*.—Active work will be undertaken looking to the introduction of varieties resistant to wilt and to the control of anthracnose. These two diseases cause large losses annually. . . . . \$21, 520
- (b) *Truck-crop diseases*.—Work under this item will include demonstrations in the control of—
- (1) Potato late blight, the most serious plant disease in the Northeastern States, having in past years destroyed potatoes at the rate of 3,000,000 bushels per day. . . . . 17, 500
  - (2) Seed-borne potato diseases (mosaic, leaf-roll, blackleg, and scab). . . . . 10, 710
  - (3) Sweet-potato diseases (it is estimated that the department's work last year resulted in saving \$100,000 in two southern counties alone). . . . . 16, 680
  - (4) Bean diseases, which last year caused serious losses in Michigan, New York, and other bean-growing States, and which can be controlled in large measure through the use of disease-free and disease-resistant seed. . . . . 11, 000
  - (5) Tomato wilt, which causes losses aggregating approximately 200,000 tons of tomatoes annually, and tomato leaf-spot, which is responsible for the loss of at least 500,000 tons. The losses from these diseases can be prevented through the adoption of proper control measures. . . . . 11, 500
  - (6) Nematode diseases, which are especially destructive in the South, attacking cotton and forage plants as well as truck crops. . . . . 11, 720
  - (7) Southern garden diseases, such as tomato wilt, cabbage yellows, rootknot, etc., which are especially discouraging to home gardeners and frequently make the summer cultivation of these vegetables impossible. . . . . 8, 440
  - (8) And pathological investigations of vegetables during the processes of marketing, looking to the determination of the diseases which cause the most serious losses and the institution of control measures at the source of production; also cooperation with the War Department by giving advice relative to diseases affecting perishable vegetables purchased for the army. . . . . 28, 500

*Control of cotton, truck, and forage-crop diseases.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Pathologists. . . . . per annum. . . . .	\$1, 800		2
Assistants. . . . . do. . . . .	1, 800	25	<sup>2</sup> 13
Do. . . . . per month. . . . .	100	1 5	
Agents. . . . . per annum. . . . .	1, 800	28	
Do. . . . . do. . . . .	1, 620		2
Do. . . . . per month. . . . .	125		<sup>3</sup> 1
Clerks. . . . . per annum. . . . .	1, 200		2
Salaries. . . . .		\$97, 450.00	\$17, 000.00
Other objects of expenditure:			
Traveling expenses. . . . .		36, 900.00	7, 900.00
Miscellaneous items. . . . .		3, 200.00	1, 500.00
Total. . . . .		137, 550.00	26, 400.00

<sup>1</sup> 4 months.

<sup>2</sup> Part time.

<sup>3</sup> Temporary.

#### 4. FARM STORAGE OF SWEET POTATOES.

Allotment, 1918. . . . .	\$15, 000
Estimate, 1919. . . . .	30, 000
Increase. . . . .	15, 000

The funds assigned to this project for the present year became available so late that it was impossible to accomplish all the work contemplated. Practically all the money allotted for the purpose was expended during September, October, November, and December in a campaign to induce farmers to build storage houses for the proper handling and curing of their potatoes. It is estimated that the houses built and remodeled during the autumn of 1917, as a result of the department's recommendations, will hold at least 1,000,000 bushels of potatoes and that the value of the potatoes stored in the proper type of house is increased at least 25 cents per bushel over that of sweet potatoes stored in pits. On an average at least 25 per cent of the potatoes stored in pits are lost through decay, as against a loss in storage houses of less than 5 per cent. It is believed that the results secured so far fully justify the continuation and enlargement of the work next year.



Farm storage of sweet potatoes.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Horticulturists.....per annum..	\$2,520.00	1 1	1 1
Do.....do.....	2,000.00	1 1	1 1
Do.....do.....	1,800.00	1 1	1 1
Assistants.....do.....	1,620.00	1 1	1 1
Do.....per month..	200.00	1 25	
Do.....do.....	150.00	1 5	1 5
Agents.....do.....	150.00	1 5	1 8
Collaborator.....per annum..	1.00	1	1
Salaries.....		\$17,930.00	\$8,714.15
Other objects of expenditure:			
Traveling expenses.....		10,000.00	3,575.00
Miscellaneous items.....		2,070.00	150.00
Total.....		30,000.00	12,439.15

1 Temporary.

5. LOCATION OF IRISH-POTATO SEED STOCKS.

Allotment, 1918.....	\$10,000
Estimate, 1919.....	30,000
Increase.....	20,000

This project has for its object a general survey of the United States for the purpose of locating stoeks of disease-free and varietal-pure seed potatoes and the determination of the suitability of eertain stoeks and varieties for seed purposes in the various potato-produeing areas. The work is earried on by potato specialists, cooperating with specialists in plant diseases. Considerable quantities of seed potatoes have been loeated and inspeeted during the current year in Maine, Vermont, New Hampshire, Massaehusets, Indiana, Wiseonsin, Minnesota, and Colorado. The need for locating as large a quantity of good seed potatoes as possible in the autumn of 1918 for use the following year is very urgent, whether the war continues or not. No other factor is of more vital importance to the potato industry than that of good seed. The present funds are too limited to permit the extension of this eampaign in an adequate way. It is hoped to continue the work in the States already covered and to extend it to other areas in the North and West. The plans for next year contemplete a eampaign in 19 States.

Location of Irish-potato seed stocks.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Field assistants.....per annum..	\$2,230.00	2	
Do.....per month..	100.00	1 33	2 7
Assistants and collaborators.....do.....	10.00	8	8
Do.....per diem..	5.00-7.00		10
Salaries.....		\$15,560.00	\$3,385.67
Other objects of expenditure:			
Traveling expenses.....		11,740.00	5,460.00
Miscellaneous items.....		2,700.00	500.00
Total.....		30,000.00	9,345.67

1 Three and 4 months.

2 Temporary.

6. PLANT-DISEASE SURVEY.

Allotment, 1918.....	\$18,500
Estimate, 1919.....	23,000
Increase.....	4,500

It is highly essential that the department have available definite information relative to the oceurrence and severity of the more important plant diseases as an aid in the control of





serious epidemics, especially of diseases of grain and truck crops. It is especially important to determine the range of a new destructive disease of corn recently introduced from the Orient, the regions where potatoes and beans are seriously injured by plant diseases and where control work must be undertaken, and similar factors necessary for the proper development of the campaign against the smut and rust diseases of wheat, as well as diseases of other crop plants.

The \$10,000 allotted to the plant-disease survey from regular funds has been sufficient only to enable the department to maintain in Washington and the States a skeleton organization for gathering data by correspondence but does not permit of active war emergency work. During the current fiscal year an allotment of \$15,000 under the food production act has made it possible to extend the work somewhat in the field. The State plant pathologists in nearly every State have been made collaborators of the department and, with them as local leaders, cooperative relations rapidly are being established with a large body of pathological workers, thus making it possible to collect a large volume of information on diseases of food crops of great value in emergency disease-control operations and fostering a spirit of cooperation among pathologists, which is of great importance at this time. This work is also conducted in close cooperation with the various pathological offices of the Bureau of Plant Industry.

The value of the plant-disease survey as a war emergency agency may be summarized under two heads: (a) general watch service regarding diseases of important food crops in the various States, and (b) special surveys on particular diseases of crops.

(a) *General watch service.*—Both Federal and State pathologists have found the services rendered by the plant-disease survey during the past season to be very valuable and have emphasized the importance of extending it next year. It is hoped to keep in sufficiently close touch with the general disease situation in each State so that warning may be given of the more unusual or important developments of diseases of the principal crops, thus clarifying the disease situation in each State and affording a sound basis for the emergency work undertaken by State and Federal pathologists. In order to develop this work in a thorough way, it will be necessary to enlarge the present staff of correspondents so as to tap all available sources of information. It is estimated that \$3,000, to be expended largely for travel expenses, will be sufficient to develop this watch service on an efficient war-time basis.

(b) *Special surveys.*—The various pathological offices of the Bureau of Plant Industry have requested assistance from the plant-disease survey forces either (1) by gathering disease data bearing on their control operations, especially in those regions which their own field men can not cover without taking them away from their special duties in extension and control work, or (2) by gathering data on diseases of important crops which merit immediate attention as war emergency measures but which can not profitably be undertaken as definite projects without preliminary field study. As illustrations of special surveys urgently needed at the present time may be mentioned the leaf rusts of wheat and other cereals, root and stalk diseases of corn, ergot of rye and other grains and grasses, late blight of potato, sweet potato and onion diseases, rust of beans and of asparagus, soy-bean diseases, sugar-beet nematode troubles, and sugar-cane diseases.

*Plant-disease survey.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Pathological inspector.....per annum..	\$1,800	1	<sup>1</sup> 1
Clerk.....do.....	1,400	1	<sup>2</sup> 1
Do.....do.....	1,200	1	<sup>1</sup> 1
Do.....do.....	1,100	1	<sup>3</sup> 1
Field assistants.....per month..	200		<sup>4</sup> 1
Do.....do.....	150	<sup>4</sup> 5	
Do.....do.....	125	<sup>4</sup> 10	<sup>4</sup> 10
Do.....do.....	100	<sup>4</sup> 6	
Salaries.....		\$14,000	\$9,012
Other objects of expenditure:			
Traveling expenses.....		8,800	6,875
Miscellaneous items.....		200	2,613
Total.....		23,000	18,500

<sup>1</sup> 8 months.

<sup>2</sup> 9 months.

<sup>3</sup> 6 months.

<sup>4</sup> Temporary.



## 7. CASTOR-BEAN PRODUCTION AND UTILIZATION.

Allotment, 1918.....	\$4,738
Estimate, 1919.....	20,000
Increase.....	15,262

The oil of the castor bean has been found to be particularly desirable in the lubrication of airplane motors. It happens to be one of the few oils not soluble in gasoline and is affected but little by changes in temperature. It is therefore particularly useful in these motors. To meet the war needs in this direction the War Department has found it necessary to contract for the growing of about 100,000 acres of castor beans, and the assistance of this department has been requested in supervising the agricultural work incidental to the production of the crop.

While formerly an important crop in certain sections of Oklahoma, Kansas, Missouri, and Illinois, the culture of castor beans has been practically abandoned in this country in recent years. The large planting required will have to be undertaken by growers who have little or no knowledge of the special features of the cultivation and handling of the crop. The work will be distributed over a wide area in the States of Virginia, North Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Texas, and California. In order to give effective assistance, this large field should be divided into not less than five districts, in each of which the services of a skilled agronomist should be provided to follow up closely the plantings of castor beans which are being made under Government contracts and supply the necessary advice and instructions to farmers and farm demonstrators, contractors, county agents, and others concerned. It is planned (1) to insure, so far as possible, the proper handling of the crop, in order to give the highest degree of certainty of obtaining the needed product, and (2) to acquire practical, detailed data regarding the best varieties to plant, the most suitable regions for planting, and the most desirable methods of handling the crop, in order to protect the interests of the Government should it become necessary to produce another crop of castor beans.

*Castor-bean production and utilization.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries: Agronomists.....	\$2,000	6	15
Salaries.....		\$12,000	\$2,000
Other objects of expenditure:			
Traveling expenses.....		7,500	2,500
Miscellaneous items.....		500	238
Total.....		20,000	4,738

<sup>1</sup> Part time.

## 8. MAINTENANCE OF FIELD-BEAN SEED SUPPLY.

Allotment, 1918.....	\$7,500
Estimate, 1919.....	10,000
Increase.....	2,500

Investigation has shown that, in order to insure the best results in the production of field beans, it is necessary (1) to use seed of local harvest and (2) to be absolutely sure that the seed is viable. It is not safe to use foreign beans for seed. For example, California beans of the same commercial classification do not give good results when used for seed in New York or Michigan. Hence the necessity of conserving for each important growing region seed of its own production which is clean, viable, and free from disease. To insure a stand of beans on the acreage to be planted in 1918, extraordinary care in the choice of seed will be necessary. It is highly desirable, therefore, that the department should conduct an active campaign in cooperation with the State forces to locate adequate and suitable seed for the coming season's planting.





*Maintenance of field-bean seed supply.*

Employees.	Rate per month.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries: Field assistants.....	\$150	<sup>1</sup> 9	<sup>2</sup> 9
Salaries.....		\$5,400.00	\$4,500
Other objects of expenditure:			
Traveling expenses.....		3,000.00	3,000
Miscellaneous items.....		1,000.00	
Total.....		10,000.00	7,500

<sup>1</sup> 4 months.<sup>2</sup> Part time.

## 9. FIELD SUPERVISION OF WAR-GARDEN WORK.

Allotment 1918.....	\$2,500
Estimate 1919.....	7,500
Increase.....	5,000

There was a large increase, estimated at from 200 to 300 per cent, in the number of home gardens planted last year. An active campaign is now under way to stimulate the planting of home gardens during the present season, and the demand for assistance in this direction is very great. The work of the department along this line is primarily under the direction of the States Relations Service, cooperating with the Bureau of Plant Industry. It is proposed to employ additional garden specialists in the Bureau of Plant Industry to assist the extension forces in the planning of the garden work and to give advice regarding the handling of crops and the varieties that are most satisfactory for small gardeners.

*Field supervision of war-garden work.*

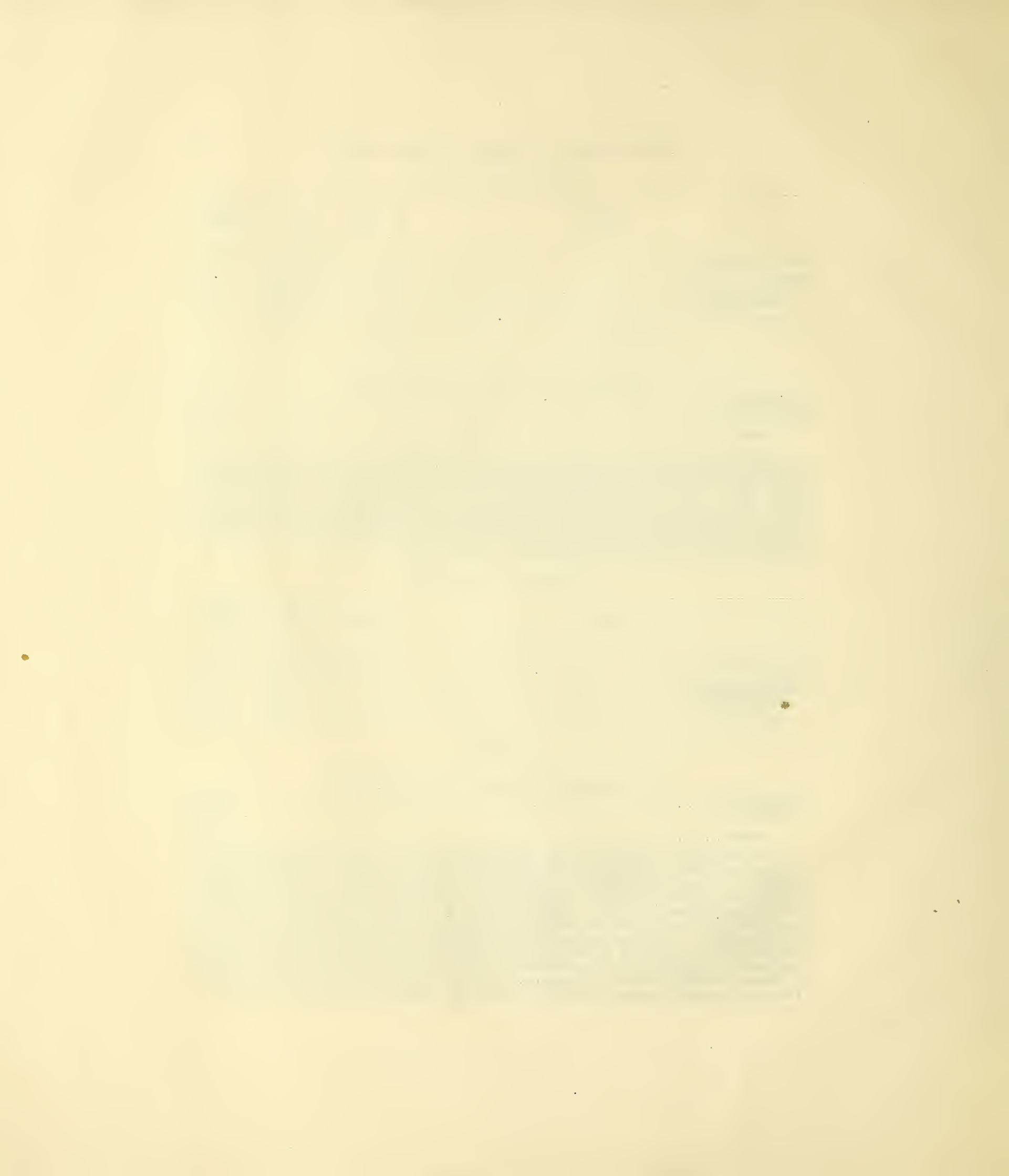
Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries: Horticulturists.....	\$2,500	<sup>2</sup>	<sup>1</sup> 2
Salaries.....		\$5,000.00	\$1,400.00
Other objects of expenditure:			
Traveling expenses.....		2,400.00	800.00
Miscellaneous items.....		100.00	300.00
Total.....		7,500.00	2,500.00

<sup>1</sup> 3½ months.

## 10. PRODUCTION OF CEREALS AND GRAIN SORGHUMS.

Allotment, 1918.....	\$5,000
Estimate, 1919.....	53,250
Increase.....	48,250

It is proposed to conduct an active field campaign with a view to secure the adoption of the best methods of producing cereals and grain sorghums. Several specialists should be assigned to the spring-wheat areas, especially in those States which have been asked to greatly extend their acreages, and to those regions where there has been a large increase in rye production during the past few years. Special campaigns also should be conducted to secure the more general adoption of the best methods in the production of flax, buckwheat, barley, and grain sorghums. In all cases the experts and assistants to be appointed will work as special advisers to the county agents in selecting the varieties of these crops best suited to the different regions and in securing the most economical use of labor and the adoption of the best methods of planting, handling, and storing the crops. If this work is actively prosecuted, it is believed that a very material increase in production during the coming season can be accomplished.



*Production of cereals and grain sorghums.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Field assistants.....	\$2,000	16	18
Do.....	1,200	2	
Do.....	800	2	
Salaries.....		\$36,000.00	\$4,000
Other objects of expenditure:			
Traveling expenses.....		7,000.00	1,000
Miscellaneous items.....		250.00	
Total.....		53,250.00	5,000

<sup>1</sup> Part time.

11. SUGAR-BEET NEMATODE WORK.

Allotment, 1918.....	\$2,000
Estimate, 1919.....	10,000
Increase.....	8,000

The sugar-beet nematode occurs in destructive numbers in California, Utah, Idaho, and Colorado, where it has been definitely located. It undoubtedly is responsible for serious losses in other localities. The losses in California from this pest, according to the best figures obtainable, are approximately \$300,000 annually. A survey of Utah and Idaho, just completed, shows that the sugar-beet nematode occurs in no less than 10 sugar-beet areas in those States. A conservative estimate of losses to growers in these areas, based on the prevailing price of beets, amounted in 1917 to over \$300,000; the loss to sugar companies, based upon yield of sugar per acre and price of sugar, amounted to nearly \$900,000; making a total loss to the growers and sugar companies in Utah and Idaho of approximately \$1,200,000. Aside from the financial loss involved, the decreased output of sugar in Utah and Idaho from this cause is estimated at 40,000 tons. These losses may be expected to increase steadily from year to year unless active steps are taken to control this pest.

In many of the areas in which the nematode is found the infestation is slight at present, and if effective steps are taken at once the pest undoubtedly can be held in check, at least to the extent of permitting the growing of sugar beets with profit in such regions. It is proposed to make a thorough survey of the sugar-beet sections to locate the areas which are or may be infested, so that growers may adjust their operations accordingly, and also to give advice regarding control measures and the rotations which should be practiced on badly infested lands.

*Sugar-beet nematode work.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries: Scientific assistants.....	\$1,200	<i>Number.</i> 3	<i>Number.</i> 13
Salaries.....		\$3,600	\$1,000
Other objects of expenditure:			
Traveling expenses.....		3,000	600
Miscellaneous items.....		3,400	400
Total.....		10,000	2,000

<sup>1</sup> Part time.

12. PATHOLOGICAL INSPECTION OF FRUITS DURING PROCESSES OF MARKETING.

Allotment, 1918.....	\$4,800
Estimate, 1919.....	18,000
Increase.....	13,200

The object of this work is to carry on the necessary plant pathological work in connection with the inspection service of the Bureau of Markets, with a view to determine the pathological





condition of fruits at the shipping points, locate and prevent the causes of decay, discourage the shipment of fruit which is likely to spoil in transit or on the market, and to advise as to methods of handling on the market and in storage in order to prevent losses from pathological causes. The inspection will include strawberries, cranberries, grapes, peaches, plums, cherries, apples, and citrus and other fruits.

This work is essential to the effective administration of the food-products inspection law. It is highly technical in character and entirely different from, but supplements in a very definite way, the work of the Bureau of Markets under this law.

*Pathological inspection of fruits during processes of marketing.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Pathologist.....	\$1,800	1	11
Do.....	1,440	5	15
Salaries.....		\$9,000	\$3,000
Other objects of expenditure:			
Traveling expenses.....		8,500	1,400
Miscellaneous items.....		500	400
Total.....		18,000	4,800

<sup>1</sup> Part time.

### 13. CONTROL OF A NEW SUGAR-CANE DISEASE.

Estimate, 1919 ..... \$20,000

A destructive sugar-cane disease appeared on the island of Porto Rico about four years ago, but, so far as the department knows, it has not yet appeared in any other part of the world. The latest information at hand is that the disease is continuing to spread and that there are localities in the western end of the island where the growing of cane has been entirely abandoned. In four years the disease has spread from a few patches here and there until it now covers about one-fourth of the island and threatens to wipe out the sugar-cane industry of the island. If the disease remains unchecked, there is danger that it will sooner or later spread to Cuba and possibly to the United States. The cane-sugar production of Porto Rico has reached a total of 400,000 tons annually, which at the present price of raw sugar has a value of more than \$50,000,000. Specialists from this department should be assigned to cooperate with the pathologist of the insular experiment station in working out and securing the adoption of practical methods of control.

The possibility of the occurrence of this disease in Florida at the present time also should be investigated.

*Control of a new sugar-cane disease.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Pathologists.....	\$3,000	2	
Assistant pathologists.....	1,500	2	
Salaries.....		\$9,000	
Other objects of expenditure:			
Traveling expenses.....		6,000	
Miscellaneous items.....		5,000	
Total.....		20,000	





## 14. PRODUCTION OF RICE.

Estimate, 1919..... \$5,000

Results of a recent general survey of Porto Rico by the Bureau of Plant Industry indicate that this island, which now buys on an average of \$4,500,000 worth of rice from the United States each year, has a sufficient area suited to this crop to produce at least 50 per cent of its annual rice requirements. This department can render material service in developing rice production on the island by cultural, irrigation, and varietal tests, in cooperation with the insular experiment station. Before recommendations can be made as to commercial rice culture, however, it will be necessary to have such data as may be obtained from the proposed experiments. This country does not grow enough rice for its own use.

In certain sections of Georgia, South Carolina, Alabama, and Florida, where the normal rainfall is heavy during the summer months, it is believed that much good might be accomplished by encouraging the production of rice for local and home use. This work does not contemplate any general extension of the rice-producing area, but the demand for rice is increasing and there are small areas on many farms which could be advantageously utilized for rice production.

*Production of rice.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Assistants.....per annum..	\$1,440	1	
Do.....per month..	125	14	
Salaries.....		\$2,640	
Other objects of expenditure:			
Travelling expenses.....		1,200	
Miscellaneous items.....		1,160	
Total.....		5,000	

<sup>1</sup> Temporary.

## BUREAU OF ENTOMOLOGY.

NOTE.—The extension work in entomology under the food production act is carried out from the regional standpoint rather than by States, and the organization is maintained sufficiently flexible to permit the concentration of men in any region where insect outbreaks may occur. Specialists have been appointed who, in view of their training and knowledge of field conditions, are especially fitted to conduct work of this character. Cooperative arrangements have been made, through the States Relations Service, with the directors of extension in the respective States. Demonstrations are being given to small groups of farmers, live-stock men, fruit growers, and others in cultural methods, including destruction of hibernating quarters, dates of planting, time and method of tilling, rotation and fertilizing of crops, and methods of harvesting and storage which minimize insect depredations, and in the preparation of spray mixtures, emulsions, poisoned baits, and other methods of insect control. The information given has aimed to provide as effectively as possible for the protection of the important crops and domestic animals from insects. Whenever possible, persons in the community where demonstrations are being made are used to assist in the work in order that each community shall have one or more persons acquainted with the methods of assembling and applying insecticides, etc.

## 1. CONTROL OF CEREAL AND FORAGE INSECTS.

Allotment, 1918..... \$26,575  
 Estimate, 1919..... 55,000  
 Increase..... 28,425

The principal efforts looking to the control of insects affecting cereal and forage crops are being made in the upper Mississippi Valley grain regions, where a force of seven men is employed. The work is being conducted in 12 States. During the early fall months an effective campaign was carried on for the control of the Hessian fly. This was followed by an extensive survey to locate potential grasshopper and other insect outbreaks and preliminary arrange-



ments have been made for active control work next summer. A very extensive campaign demonstrating the control of the chinch bug is now under way in the West and Southwest. Educational campaigns are being carried out in the Northwest in the control of the alfalfa weevil. Educational work is also being concentrated on the white grub, cutworms, and jointworms.

The Hessian-fly work should be carefully followed up over the territory already covered just before planting time in the fall of 1918. The grasshopper work, for which a preliminary survey has already been made, can not be actively started until early summer. The alfalfa-weevil educational campaign now under way should be followed by field demonstrations throughout the coming growing season, as should also the work on white grubs, cutworms, and jointworms. In addition, a very serious pest, the European cornstalk borer, which recently was introduced in New England, would prove very destructive if it should become established in the corn belt, and every effort, therefore, should be made to control it or to limit its spread.

Control of cereal and forage insects.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Special field agents.....	\$1,800	1 4	3
Do.....	1,600	2 4	1
Do.....	1,500	3	4
Do.....	1,400	2	2
Do.....	1,200	3	3
Salaries.....			
Other objects of expenditure:		\$24,500	\$12,000
Traveling expenses.....		21,800	11,300
Equipment and material.....		1,500	1,500
Telephone and telegraph service.....		500	550
Miscellaneous items.....		6,700	1,225
Total.....		55,000	26,575

<sup>1</sup> 1 new.

<sup>2</sup> 3 new.

2. CONTROL OF STORED-PRODUCT INSECTS.

Allotment, 1918.....	\$17,000
Estimate, 1919.....	22,000
Increase.....	5,000

An extensive survey has been made throughout the Southern States to ascertain the extent of damage being done by pests of stored products and the possibility of improving these conditions. The losses to grain and other food products in storage through insect depredations, particularly in the South, are frequently greater than those caused by insects to the growing crops. It is believed that a large portion of these losses can be prevented through the adoption of proper methods of control. Preliminary arrangements have been made with the State authorities, and two special field agents have been appointed to assist in the work. The funds allotted to this project for the current year did not become available until late in the season, and the work which will be carried on during the balance of the current fiscal year should be followed up through the summer.

Control of stored-product insects.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Special field agents.....	\$1,800	1	1
Do.....	1,600	1 6	3
Do.....	1,200	1	1
Salaries.....			
Other objects of expenditure:		\$12,600	\$3,800
Traveling expenses.....		8,000	2,700
Equipment and material.....		250	100
Telephone and telegraph service.....		350	50
Miscellaneous items.....		800	10,350
Total.....		22,000	17,000

<sup>1</sup> 3 new.







## 3. CONTROL OF VEGETABLE AND TRUCK-CROP INSECTS.

Allotment, 1918.....	\$20,000
Estimate, 1919.....	35,000
Increase.....	15,000

Five special field agents have been appointed under this project. One agent is assisting the growers in the large Norfolk trucking regions of Virginia and the Beaufort trucking section of North Carolina. Another agent is carrying on insect-control work on Long Island and in Orange County, N. Y. Work is also under way in the southern California truck sections. This work should be actively followed up during the coming summer with practical field demonstrations, and similar activities should be inaugurated in New England, the Pacific Northwest, and the upper Mississippi Valley.

*Control of vegetable and truck-crop insects.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Special field agents.....	\$2,000	<sup>1</sup> 1	
Do.....	1,600	1	1
Do.....	1,500	3	3
Do.....	1,400	5	4
Do.....	1,200	6	6
Salaries.....		\$20,900	\$10,860
Other objects of expenditure:			
Traveling expenses.....		10,800	7,420
Equipment and material.....		1,500	420
Telephone and telegraph service.....		400	100
Miscellaneous items.....		1,400	1,200
Total.....		35,000	20,000

<sup>1</sup> 1 new.

## 4. CONTROL OF SWEET-POTATO WEEVIL.

Allotment, 1918.....	\$30,000
Estimate, 1919.....	50,000
Increase.....	20,000

The sweet-potato weevil recently has become a serious menace in portions of Georgia, Alabama, Mississippi, Louisiana, and Texas, a region which produces about one-half of the entire sweet-potato crop of the United States. In view of the importance of this crop, which at present prices represents an annual value of nearly \$90,000,000, it is believed that every effort should be made to reduce the losses caused by this pest. During the present fiscal year, under an allotment of \$30,000 from the appropriation made available by the food production act a preliminary survey was made to determine the distribution of the insect and a campaign inaugurated to disseminate information as to methods of control. This survey indicates that it would be desirable materially to extend the work already under way with a view to bring about a gradual reduction of the area infested and to encourage the more general adoption of effective control measures.

The sweet-potato weevil is probably of Chinese origin and was brought to this country on imported sweet potatoes. It has been known in the Gulf region, notably in Florida and Louisiana, for 40 years. The damage from it in this section has at times been quite severe but more or less intermittent. The insect has come into great prominence, especially during the past year, by reason of its sudden spread and development throughout the principal sweet-potato growing districts of the South. The State of Florida has undertaken a vigorous campaign to eradicate the weevil in that State.



*Control of sweet-potato weevil.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Supervisor .....	\$2,200	1	1
Special field agents.....	1,800	8	8
Salaries.....		\$16,600	\$5,950
Other objects of expenditure:			
Traveling expenses.....		10,800	8,000
Equipment and material.....		2,000	1,000
Miscellaneous items.....		20,600	15,050
Total.....		50,000	30,000

5. CONTROL OF DECIDUOUS-FRUIT INSECTS.

Allotment, 1918.....	\$35,000
Estimate, 1919.....	45,000
Increase.....	10,000

Nine special field agents are engaged in carrying on work looking to the control of insects affecting deciduous fruits. The work in the middle Appalachian region is well under way. Field demonstrations in dormant spraying and the preparatory work for the spring codling moth and aphid spraying are in progress. The demonstration spraying campaign in the New York apple section is being organized, and two men are at work in the lower Mississippi region. Considerable assistance has been rendered by the department's agent in the "spray your orchard week" campaign in Mississippi, and work is also under way in Kansas, Washington, and Idaho. An expert recently has been assigned to New Jersey to assist in the campaign for the eradication of the dangerous Japanese beetle, newly introduced into this country. Preliminary steps have also been taken to ascertain the present distribution of the oriental peach moth, another insect pest recently imported from Japan and now known to occur in various parts of the Eastern States, as a basis for determining practical eradication or control measures. This insect is particularly injurious to most of our important fruits, such as the peach, plum, cherry, apricot, apple, pear, and quince.

In order to secure the full benefits of the work in the control of deciduous-fruit insects the efforts that are being made during the winter and spring of the present year should be continued over the rest of the growing season. The additional funds requested will, if granted, be used in making a thorough inspection of the territory likely to be infested by the oriental peach moth and in extending the campaign of eradication. To properly continue the work from July 1 to October 31, 1918, it is estimated that \$20,000 will be required. This estimate does not make provision for a continuation of the work in the eradication of the Japanese beetle, since \$10,000 for this purpose has been added by the Senate committee to the item for deciduous-fruit insect investigations in the agricultural appropriation bill for 1919.

*Control of deciduous-fruit insects.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Special field agents.....	\$1,800	1	1
Do.....	1,680	1	1
Do.....	1,000	2	2
Do.....	1,500	2	2
Do.....	1,400	1	1
Do.....	1,300	1	1
Do.....	1,200	1	1
Do.....	1,200	1 <sup>19</sup>	2 <sup>14</sup>
Salaries.....		\$21,240	\$15,450
Other objects of expenditure:			
Traveling expenses.....		20,360	14,800
Equipment and material.....		1,000	1,500
Miscellaneous items.....		2,400	3,250
Total.....		45,000	35,000

<sup>1</sup> 4 months.

<sup>2</sup> 3 months.





## 6. CONTROL OF CITRUS-FRUIT INSECTS.

Allotment, 1918.....	\$6,000
Estimate, 1919.....	10,000
Increase.....	4,000

One special field agent, assisted by two members of the field laboratory staff, has been carrying on an extensive campaign in southern California for the control of mealy bugs and scale insects. This species of mealy bug is a comparatively new and extremely destructive pest. It is also planned to assign an additional field agent to Florida.

In order that the work already inaugurated may be efficiently prosecuted and produce the desired results, it should be carried through an entire growing season. It is also desirable to extend it to include the Texas and Louisiana citrus regions.

*Control of citrus-fruit insects.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Special field agents.....	\$2,200	1	1
Do.....	1,800	1	1
Do.....	1,600	1	1
Salaries.....		\$5,600.00	\$2,900.00
Other objects of expenditure:			
Traveling expenses.....		3,900.00	2,600.00
Miscellaneous items.....		500.00	500.00
Total.....		10,000.00	6,000.00

## 7. CONTROL OF INSECTS INJURIOUS TO LIVE STOCK.

Allotment, 1918.....	\$10,000
Estimate, 1919.....	20,000
Increase.....	10,000

One special field agent, assisted by a research specialist, has carried on this work in the Southwest. Three other agents will be assigned to the Rocky Mountain regions and other Western States and to the lower Mississippi Valley. Principal attention has been given to the control of the ox warble, bot fly, and cattle and poultry lice. The screw worm has also received considerable attention.

Owing to the late date at which the emergency funds became available, it was impossible under the present appropriation to reach many sections where improved methods in the control of these insects should be adopted. Much of the work already inaugurated can be made more effective by practical field demonstrations throughout the coming summer.

*Control of insects injurious to live stock.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Special field agents.....	\$2,500	<sup>1</sup> 1	.....
Do.....	2,000	1	.....
Do.....	1,600	<sup>2</sup> 2	1
Do.....	1,500	1	1
Do.....	1,400	1	1
Salaries.....		\$7,925.00	\$3,750.00
Other objects of expenditure:			
Traveling expenses.....		6,300.00	4,850.00
Equipment and material.....		1,000.00	400.00
Telephone and telegraph service.....		250.00	100.00
Miscellaneous items.....		4,525.00	900.00
Total.....		20,000.00	10,000.00

<sup>1</sup> Three months.<sup>2</sup> One to six months.





## 8. CONTROL OF RICE INSECTS.

Allotment, 1918.....	\$1,600
Estimate, 1919.....	3,000
Increase.....	1,400

Owing to the highly specialized nature of the work in connection with rice insects, the department was unable until recently to secure the necessary assistance. One man should devote his time to the Texas and Louisiana rice fields. The work to be inaugurated this spring should be carried through the growing season in order that the beneficial results of control measures may be demonstrated to the growers at harvest time.

*Control of rice insects.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Special field agent.....	\$1,800	1	1
Salaries.....		\$1,800.00	\$450.00
Other objects of expenditure:			
Traveling expenses.....		1,000.00	550.00
Equipment and material.....		50.00	250.00
Miscellaneous items.....		150.00	350.00
Total.....		3,000.00	1,600.00

## 9. CONTROL OF SUGAR-CANE INSECTS.

Allotment, 1918.....	\$3,600
Estimate, 1919.....	9,000
Increase.....	5,400

Very little has been done under this project up to the present time because of the impossibility of procuring the necessary assistance. Two men will be detailed to the work in the near future and their activities should be carried through the growing season in order that the beneficial results of control measures may be demonstrated to the growers at harvest time.

*Control of sugar-cane insects.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Special field agent.....	\$2,000	1	1
Do.....	1,800	1	1
Salaries.....		\$3,800.00	\$1,500.00
Other objects of expenditure:			
Traveling expenses.....		3,500.00	1,400.00
Equipment and material.....		500.00	200.00
Telephone and telegraph service.....		225.00	150.00
Miscellaneous items.....		975.00	350.00
Total.....		9,000.00	3,600.00

## 10. GENERAL SUPERVISION OF EMERGENCY INSECT-CONTROL WORK.

Allotment, 1918.....	\$6,000
Estimate, 1919.....	3,000
Decrease.....	3,000

This project provides for the general supervision and systematization of the various extension activities in insect control, in cooperation with the States Relations Service.

There is an apparent reduction in the estimate for next year of \$3,000 as compared with the present allotment. In view of the fact that the agricultural appropriation act for the next fiscal year carries an increase of \$6,000 for this work, there is actually an increase in total funds



for supervisory expenses of \$3,000. This will provide for the employment of one additional assistant and for necessary incidental expenses.

*General supervision of emergency insect-control work.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Entomologist in extension work.....	\$2,500	1	1
Clerk.....	1,400		1
Do.....	1,200		1
Salaries.....		\$2,200.00	\$4,800.00
Other objects of expenditure:			
Stationery.....		100.00	50.00
Traveling expenses.....		400.00	700.00
Equipment and material.....		100.00	100.00
Telephone and telegraph service.....		50.00	50.00
Miscellaneous items.....		150.00	300.00
Total.....		3,000.00	6,000.00

## BUREAUS OF CHEMISTRY, MARKETS, AND PLANT INDUSTRY.

### 1. PREVENTION OF PLANT-DUST EXPLOSIONS AND FIRES.

Allotment, 1918.....	\$25,000
Estimate, 1919.....	135,000
Increase.....	110,000

The large number of explosions and fires in grain mills and elevators which the country has experienced and which have caused large losses of grain and property, and in some cases loss of life, emphasizes the necessity of taking all feasible steps to control them. With an allotment of \$25,000 from the funds made available by the food production act, the Bureau of Chemistry has been assisting operators of mills and elevators in the removal of dangerous dust conditions and the elimination of possible cause of explosions and fires. The work has produced very satisfactory results. Meetings have been held at various points throughout the country and the methods of prevention which have proved effective have been demonstrated by lantern slides and motion-picture reels, and actual dust explosions have been produced before the audiences by a specially devised laboratory equipment. In the conduct of this work the department is cooperating closely with the Food Administration and also with the National Board of Fire Underwriters, insurance commissions and inspectors, State officials, and other agencies concerned with fire prevention. It is essentially a conservation campaign and should result not only in the saving of large quantities of grain but also in preventing the loss of human life.

Similar work also has been conducted in connection with the prevention of explosions and fires in threshing machines. The dry season of 1916 in the West was marked by an unusually large number of smut explosions. The devices originated by the department in cooperation with the several State experiment stations have been found to be satisfactory in preventing smut and other plant dust explosions, and threshers properly equipped have in no cases suffered either from explosions or fires. The activities of the department in connection with the prevention of plant-dust explosions and fires involve the close and effective cooperation of three bureaus of the department, namely, the Bureau of Chemistry, Bureau of Markets, and Bureau of Plant Industry. Each of these bureaus will deal with a particular phase of the problem and there is a thorough understanding among them regarding the matter.

(a) *Thresher explosions and fires.*—There is urgent need for continuing the demonstrations of the efficiency of the appliances for preventing smut-dust explosions and fires in threshers. These demonstrations should be extended to other areas likely to suffer from a prevalence of smut, especially in the Great Plains, the Southwest, and the Northwest. For this phase of the work, to be conducted by the Bureau of Chemistry, it is proposed to expend \$10,000.

The work of the past season with reference to smut explosions indicates the need of a further improvement in the devices for ridding the machines of the smut dust. Since the cleaning fans scatter the smut spores in the vicinity of the threshing machines, this may result in increasing the smut infection of grain in near-by fields. The development of methods for







destroying the spores is therefore very important. As fast as methods are developed they should be demonstrated in connection with the demonstration of explosion and fire-prevention devices. This phase of the work, for which \$10,000 is estimated, will be under the direction of the Bureau of Plant Industry.

In addition to reducing the danger of explosions and fires, the cleaning of the grain in the threshers by the special fans has resulted in an improvement in the grade of the grain and consequently a better price. The demonstration of this improvement in the grade of grain is one of the important steps in securing the adoption of protective devices on threshers, and accordingly it is important that the work be continued. This feature of the project, for which an allotment of \$15,000 is proposed, will be conducted by the Bureau of Markets.

(b) *Mill and elevator explosions and fires.*—Grain-dust explosions in grain elevators and storage buildings can be largely prevented by devices somewhat similar to some of those used on threshing machines. The feasibility of adapting these devices to grain elevators and storage warehouses has been demonstrated during the present season, and this work should be continued during the next fiscal year with a view to have all such buildings properly safeguarded. The Bureau of Chemistry, which has worked out the necessary devices, will have the leadership in this work, and \$40,000 will be required for carrying out the activities planned in this direction. The Bureau of Markets, because of its close contacts with the grain trade, will be able to render material assistance in demonstrating the methods developed, and for its part of the work \$10,000 will be needed.

(c) *Cotton-gin explosions and fires.*—Preliminary investigations during the past season indicate the probability that the numerous cotton-gin fires of the past year resulted from electric discharges caused by the development of static electricity in operating the cotton gins. It is desirable to test on cotton gins the attachments that have been found successful in preventing similar troubles in threshing machines and to provide for demonstrations of such methods if they should prove to be applicable to cotton-gin protection. The Bureau of Chemistry, because of its experience in developing methods for grain-dust and smut explosion prevention, is in the best position to undertake this work, for which an allotment of \$40,000 is proposed. At the same time the Bureau of Markets, with its large staff of cotton experts and its close contacts with the cotton trade, will be able to render material assistance in the development of effective methods of control and in demonstrating these methods. For this phase of the work an allotment of \$10,000 will be necessary.

The funds required for the work relating to the prevention of plant-dust explosions and fires, therefore, will be distributed as follows:

For prevention of thresher explosions and fires:	
Bureau of Plant Industry.....	\$10,000
Bureau of Chemistry.....	10,000
Bureau of Markets.....	15,000
	<hr/> \$35,000
For prevention of mill and elevator explosions and fires:	
Bureau of Chemistry.....	40,000
Bureau of Markets.....	10,000
	<hr/> 50,000
For control of cotton-gin explosions and fires:	
Bureau of Chemistry.....	40,000
Bureau of Markets.....	10,000
	<hr/> 50,000
	<hr/> 135,000



*Prevention of plant-dust explosions and fires.*

## COMBINED PROJECT.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Specialists.....per annum..	\$3,000	1	1
Do.....do.....	2,400	2	
Do.....do.....	1,800	5	
Do.....do.....	1,620	5	
Assistants.....do.....	2,400	1	
Do.....do.....	1,800	2	
Do.....do.....	1,620	2	2
Do.....do.....	1,500	6	6
Do.....do.....	1,440	2	2
Scientific assistants.....do.....	1,800	3	
Do.....do.....	1,680	1	
Do.....do.....	1,620	3	
Do.....do.....	1,500	9	
Expert.....do.....	2,400	1	
Field assistants.....per month..	125	<sup>1</sup> 10	
Specialists.....per diem..	10	3	3
Do.....do.....	8.50	1	1
Do.....do.....	8	1	1
Do.....do.....	5	1	1
Salaries.....		\$80,405.00	\$12,650.00
Other objects of expenditure:			
Stationery.....		700.00	
Traveling expenses.....		40,100.00	10,200.00
Equipment and material.....		7,275.00	1,500.00
Miscellaneous items.....		6,520.00	650.00
Total.....		135,000.00	25,000.00

<sup>1</sup> 15 months.*(a) Thresher explosions and fires.*

## (1) BUREAU OF PLANT INDUSTRY.

Employees.	Rate per month.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Field assistants.....	\$125	<sup>1</sup> 10	
Salaries.....		\$6,509.00	
Other objects of expenditure:			
Traveling expenses.....		3,000.00	
Miscellaneous items.....		500.00	
Total.....		10,000.00	

<sup>1</sup> Five months.

## (2) BUREAU OF CHEMISTRY.

Employees.	Rate per month.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Assistants.....	\$2,400	1	
Do.....	1,800	2	
Salaries.....		\$6,000.00	
Other objects of expenditure:			
Traveling expenses.....		2,000.00	
Equipment and material.....		1,200.00	
Miscellaneous items.....		800.00	
Total.....		10,000.00	

## (3) BUREAU ON MARKETS.

Employees.	Rate per month.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Scientific assistants.....	\$1,800	1	
Do.....	1,500	9	
Salaries.....		\$7,425.00	
Other objects of expenditure:			
Stationery.....		500.00	
Traveling expenses.....		5,100.00	
Equipment and material.....		1,525.00	
Miscellaneous items.....		450.00	
Total.....		15,000.00	





(b) *Mill and elevator explosions and fires.*

## (1) BUREAU OF CHEMISTRY.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Specialist in grain-dust explosion prevention.....per annum..	\$3,000	1	1
Assistants in grain-dust explosion prevention.....do.....	1,620	2	2
Do.....do.....	1,500	6	6
Do.....do.....	1,440	2	2
Specialists in grain-dust explosion prevention.....per diem..	10	3	3
Do.....do.....	8.50	1	1
Do.....do.....	8	1	1
Do.....do.....	5	1	1
Salaries.....		\$26,040.00	\$12,650.00
Other objects of expenditure:			
Traveling expenses.....		11,600.00	10,200.00
Equipment and material.....		1,700.00	1,500.00
Miscellaneous items.....		660.00	650.00
Total.....		40,000.00	25,000.00

## (2) BUREAU OF MARKETS.

Salaries:		<i>Number.</i>	<i>Number.</i>
Scientific assistants.....	\$1,800	2	
Do.....	1,680	1	
Do.....	1,620	1	
Salaries.....		\$6,900.00	
Other objects of expenditure:			
Traveling expenses.....		2,000.00	
Equipment and material.....		350.00	
Miscellaneous items.....		750.00	
Total.....		10,000.00	

(c) *Cotton-gin explosions and fires.*

## (1) BUREAU OF CHEMISTRY.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Specialists.....	\$2,400	2	
Do.....	1,800	5	
Do.....	1,620	5	
Salaries.....		\$21,900.00	
Other objects of expenditure:			
Traveling expenses.....		14,400.00	
Equipment and material.....		1,200.00	
Miscellaneous items.....		2,500.00	
Total.....		40,000.00	

## (2) BUREAU OF MARKETS.

Salaries:		<i>Number.</i>	<i>Number.</i>
Expert.....	\$2,400	1	
Scientific assistants.....	1,620	2	
Salaries.....		\$5,640.00	
Other objects of expenditure:			
Stationery.....		200.00	
Traveling expenses.....		2,000.00	
Equipment and material.....		1,300.00	
Miscellaneous items.....		860.00	
Total.....		10,000.00	





BUREAUS OF CHEMISTRY AND PLANT INDUSTRY.

1. FRUIT AND VEGETABLE UTILIZATION.

Allotment, 1918.....	\$41,800
Estimate, 1919.....	35,000
Decrease.....	6,800

The necessity for extending work in the demonstration of the most practical methods for conserving and utilizing fruit and vegetable products, particularly by drying, is obvious. The department has definitely determined the fact that practically all our common vegetables and fruits can be successfully dried and thus converted into nonperishable form, which can be cooked and served when needed, furnishing products of excellent quality whenever reasonable care has been exercised in the preparation of the material.

This project is being approached from two angles. (1) The Bureau of Plant Industry is giving expert assistance in developing the best methods of home drying and other similar forms of fruit and vegetable utilization. This work is restricted to the operations which can be handled upon farms or by individuals and is carried on in close cooperation with the county agents and other representatives of the States Relations Service. During the present fiscal year \$15,000 is being expended for this purpose out of emergency funds. (2) The Bureau of Chemistry is attacking the problem of drying from the standpoint of the commercial article and primarily from the standpoint of the large commercial establishments. It is also able, through its knowledge of commercial processes, to assist other offices, especially the extension forces of the department, in the modification of commercial practices to suit the requirements in the drying of garden produce. The work of the present year is being carried on under an allotment of \$22,000 of emergency funds.

The estimates for the fiscal year 1919 are based upon a continuation of the work on its present scale. Close cooperation is in effect between the Bureau of Chemistry and the Bureau of Plant Industry, and the work has been carefully planned so as to avoid duplication of effort.

Fruit and vegetable utilization.

COMBINED PROJECT.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Plant physiologist..... per annum.	\$2,760.00	1	1
Specialist in drying vegetables..... do.	2,750.00	1	1
Chemist in charge..... do.	2,520.00	1	1
Investigator in drying of vegetables..... do.	2,520.00		1
Assistant chemist..... do.	2,520.00	1	
Agent..... do.	2,500.00		1 1
Plant physiologist..... do.	2,000.00	1	1 1
Investigator in drying of fruits and vegetables..... do.	1,200.00	1	1
Junior chemist (metallurgical)..... do.	1,200.00	1	1
Field assistants..... per month.	150.00	<sup>2</sup> 8	<sup>2</sup> 4
Investigators in drying of fruit..... per diem.	7.50	2	2
Wages, laborers..... per hour.	.25	2	2
Salaries.....		\$21,900.00	\$16,555.00
Wages.....		600.00	500.00
Other objects of expenditure:			
Traveling expenses.....		7,000.00	8,400.00
Equipment and material.....		4,000.00	8,375.00
Miscellaneous items.....		1,500.00	4,087.90
Total.....		35,000.00	37,917.90

<sup>1</sup> 9 months.

<sup>2</sup> Temporary.



*Fruit and vegetable utilization—Continued.*

## (1) BUREAU OF PLANT INDUSTRY.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Plant physiologist.....per annum..	\$2,760.00	1	1
Do.....do.....	2,000.00	1	1 1
Agent.....do.....	2,500.00		1 1
Field assistants.....per month..	150.00	2 8	2 4
Salaries.....		\$10,000.00	\$6,930.00
Other objects of expenditure:			
Traveling expenses.....		4,500.00	5,900.00
Miscellaneous items.....		500.00	3,097.90
Total.....		15,000.00	15,927.90

## (2) BUREAU OF CHEMISTRY.

Salaries:		<i>Number.</i>	<i>Number.</i>
Specialist in drying vegetables.....per annum..	\$2,750.00	1	1
Chemist in charge.....do.....	2,520.00	1	1
Investigator in drying of vegetables.....do.....	2,520.00		1
Assistant chemist.....do.....	2,520.00	1	1
Investigator in drying of fruits and vegetables.....do.....	1,200.00	1	1
Junior chemist (metallurgical).....do.....	1,200.00	1	1
Investigators in drying of fruit.....per diem..	7.50	2	2
Wages, laborers.....per hour..	.25	2	2
Salaries.....		\$11,900.00	\$9,625.00
Wages.....		600.00	500.00
Other objects of expenditure:			
Traveling expenses.....		2,500.00	2,500.00
Equipment and material.....		4,000.00	8,375.00
Miscellaneous items.....		1,000.00	1,000.00
Total.....		20,000.00	22,000.00

<sup>1</sup> 9 months.<sup>2</sup> Temporary.





#### IV.

For increasing food production and eliminating waste and promoting conservation of food by educational and demonstrational methods, through county, district, and urban agents and others, \$6,100,000.

#### STATES RELATIONS SERVICE.

##### 1. GENERAL ADMINISTRATION OF EXTENSION WORK.

Allotment, 1918.....	\$25,000
Estimate, 1919.....	35,000
Increase.....	10,000

This project provides for the general administration of the emergency work of the States Relations Service, including the office of the director, the chief clerk's office, the publication activities, the purchase of supplies and equipment, and the accounting work. With the large growth of the field force under emergency appropriations, the work of the administrative offices has been correspondingly increased.

##### *General administration of extension work.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Clerks.....	\$1,600	1	1
Do.....	1,200	10	6
Do.....	1,100	5	1
Do.....	1,000	5	4
Clerks and messenger boys, \$900 to \$480.....		3	8
Wages, laborers.....	600	2	2
Salaries.....		\$26,400	\$19,400
Wages.....		600	600
Other objects of expenditure:			
Equipment and material.....		3,000	3,000
Miscellaneous items.....		5,000	2,000
Total.....		35,000	25,000

##### 2. HOME-ECONOMICS WORK.

Allotment, 1918.....	\$10,000
Estimate, 1919.....	25,000
Increase.....	15,000

This work consists of the preparation and issuance of publications of a popular nature on diet and food conservation for use in the emergency demonstrations and in correspondence relating thereto. The publications now in hand cover only a part of the topics on which the extension workers and the general public should have definite and accurate information. Extension material is needed on many more of the fundamental topics of food selection and preparation in order to keep abreast of the developments of the food situation. The Food Administration, as well as the extension workers of the Department of Agriculture and the State colleges and county and city agencies, are interested in the continuation and extension of this enterprise.

In this connection it is desirable, in order to provide material for the solution of the war emergency food problems, to conduct many tests of methods of cookery of old and new foods and of the possibilities of combining the available food supply into palatable as well as adequate meals, and of the possibilities of avoiding waste. Not only is some material constantly needed for current use, but data should be accumulated in advance, in order that the department may be able to keep pace with changes in the emergency food situation and supply material promptly.



Owing to the Government's knowledge of available food supplies and their probable disposal, it is possible to so shape the work that information can be provided for almost any contingency.

*Home-economics work.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialists.....	\$2,400		1
Do.....	2,000	1	
Do.....	2,040	1 2	1 2
Do.....	1,800	1	
Do.....	1,560	1	1
Experts.....	2,000	1	
Do.....	1,800	1	
Assistants.....	1,320	1	1
Do.....	1,200	1	1
Statistical clerk.....	1,320	1	1
Clerks.....	1,000	4	1
Messenger boy.....	480	1	
Salaries.....		\$20,000	\$8,310
Other objects of expenditure:			
Traveling expenses.....		630	530
Equipment and material.....		3,160	810
Miscellaneous items.....		1,210	350
Total.....		25,000	10,000

<sup>1</sup> Part time.

### 3. EXTENSION WORK IN THE NORTHERN AND WESTERN STATES.

#### (a) SUPERVISION.

Allotment, 1918.....	\$100,400
Estimate, 1919.....	134,200
Increase.....	33,800

The total regular appropriation for 1918 for extension work in the Northern and Western States is \$578,240, which has been augmented by \$3,170,400 from emergency funds under the food production act, making a total for the entire work of \$3,748,640. The amount that will be available for this work under regular funds for the fiscal year 1919 will not be increased, but the estimates under emergency appropriations for next year propose an increase of \$567,100. Under the regular funds there is allotted for the administration of the extension work in the 33 Northern and Western States during the present fiscal year \$29,260, making a total for supervision of both regular and emergency work of \$129,660. For the work to be undertaken during 1919 an increase of \$33,800 will be necessary to properly provide for the additional supervisory and clerical force in the Washington office.

#### (b) COUNTY-AGENT WORK.

Allotment, 1918.....	\$1,754,000
Estimate, 1919.....	1,893,000
Increase.....	139,000

The allotment for county-agent work during the fiscal year 1918 under regular funds is \$324,500, and under emergency funds \$1,754,000, or a total of \$2,078,500. With the regular funds the work has been carried on in 365 counties in the Northern and Western States. Since August, 1917, 339 counties have been provided with agents and 35 agents have been appointed for districts of two or more counties, besides 157 assistant county agents, 47 assistant county-agent leaders, and 78 agents who have been employed to assist in work of organizing counties; and more than 300 additional counties are pledged by extension directors and county-agent leaders before the beginning of the next crop-production season. It is expected that practically all the 1,600 agricultural counties in the 33 Northern and Western States will be provided with agents before the close of the present fiscal year, together with the requisite supervisory force for the effective conduct of the work. Inasmuch, however, as most of the counties during 1918 will be organized on only a part-year basis, it is believed that the amount estimated for next year will be needed in order that the county-agent work may be carried on in practically all the agricultural counties on a full-year basis.





## (c) BOYS' AND GIRLS' CLUB WORK.

Allotment, 1918.....	\$246,575
Estimate, 1919.....	382,900
Increase.....	136,325

The allotment for club work from regular funds during the current fiscal year is \$115,000 and from emergency funds \$236,575, or a total of \$351,575. With the regular appropriation a force of 27 State leaders, 41 assistant State leaders, and 97 local or county club agents were employed, and during the year about 400,000 boys and girls have been enrolled in clubs engaged in special demonstration work in growing corn, potatoes, and other crops, making gardens, raising pigs, calves, and poultry, canning, bread making, sewing, etc. In addition, about 400,000 city boys and girls were enrolled in special war emergency projects—gardening, poultry raising, and canning. The State leaders and county club agents supervised the work of about 11,500 volunteer leaders. With the emergency funds 44 State and assistant State leaders and 182 county club agents were employed.

For the proper conduct of the work next year an increase of \$136,325 is needed. The aim is to extend the county club organization so as to include as nearly as possible all productive counties in the Northern and Western States. Comparative results in previous years from States having paid county leadership and those with volunteer leadership have proved conclusively the value of county leaders working on salary and feeling a direct responsibility for the work. In order to increase the length of time such employees can be carried, additional funds are needed, since in many cases under present arrangements these leaders work only two or three months during the season. It is estimated that 127 State and assistant State leaders and 1,021 local or county club agents will be employed to effectively carry on the work and to supervise the activities of volunteer local leaders. This would enable the department to greatly increase the number of boys and girls who could be instructed, and the amount of foodstuffs produced per member could be proportionately increased. Results secured during the past season would seem to justify the increase recommended from the standpoint of food production and food conservation alone.

## (d) HOME-DEMONSTRATION WORK.

Allotment, 1918.....	\$955,350
Estimate, 1919.....	1,327,400
Increase.....	372,050

An allotment of \$35,000 from regular funds has been used for the employment of 6 State leaders and 20 county home-demonstration agents. This work has consisted largely of demonstrations in food conservation, canning, drying, and preserving. The allotment for the current year from emergency funds is \$955,350. When this money became available an immediate effort was made to enlarge the organization of home-demonstration work in all the 33 Northern and Western States. The regular work was expanded to include work in cities as well as in rural districts, with the result that there is now a force of 28 State leaders, 36 assistant State leaders, 137 agents who work in two or more counties, 146 county home-demonstration agents, and 65 city agents.

In order to continue the work in counties and cities at present organized and to provide for expansion of the work additional funds are needed. It is estimated that with the amount requested for 1919 it will be possible to employ 34 State leaders, 73 assistant State leaders, 572 county home-demonstration agents, 136 city agents, and 95 assistant city agents. This will provide for work in 572 counties of the 1,600 rural counties, more or less, in the Northern and Western States, and in 136 of the larger cities. The work of the county home-demonstration agents will be supplemented by that of the assistant State leaders, who, besides supervising the work of the county home-demonstration agents in districts comprising a number of counties, will carry on work in counties not having agents.





*Extension work in the Northern and Western States.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.	Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>			<i>Number.</i>	<i>Number.</i>
Salaries:				Salaries—Continued.			
Specialists.....	\$3,240	1	1	Agents.....	\$1,860	2	2
Do.....	3,000	1	1	Do.....	1,800	847	185
Do.....	2,400	3	3	Do.....	1,752	1	1
Do.....	2,000	1	1	Do.....	1,740	10	10
Do.....	1,980	1	1	Do.....	1,710	1	1
Do.....	1,800	1	1	Do.....	1,704	10	10
Do.....	1,500	1	1	Do.....	1,700	1	1
Do.....	1,200	1	1	Do.....	1,692	5	5
Assistants.....	2,220	1	1	Do.....	1,680	17	17
Do.....	2,200	1	1	Do.....	1,620	36	36
Do.....	2,100	1	1	Do.....	1,608	15	15
Do.....	2,040	1	1	Do.....	1,596	13	13
Do.....	2,000	1	1	Do.....	1,560	15	15
Do.....	1,200	3	3	Do.....	1,500	136	136
Scientific assistant.....	2,400	1	1	Do.....	1,440	953	24
Do.....	2,160	1	1	Do.....	1,404	16	16
Do.....	1,200	1	1	Do.....	1,392	20	20
Agriculturist.....	1,440	1	1	Do.....	1,380	21	21
Agents.....	3,000	9	9	Do.....	1,356	4	4
Do.....	2,820	1	1	Do.....	1,320	27	27
Do.....	2,808	1	1	Do.....	1,308	1	1
Do.....	2,760	1	1	Do.....	1,296	6	6
Do.....	2,700	1	1	Do.....	1,284	2	2
Do.....	2,640	2	2	Do.....	1,260	7	7
Do.....	2,604	4	4	Do.....	1,218	4	4
Do.....	2,520	1	1	Do.....	1,200	845	245
Do.....	2,508	1	1	Do.....	1,176	1	1
Do.....	2,496	1	1	Do.....	1,140	15	15
Do.....	2,460	2	2	Do.....	1,116	1	1
Do.....	2,400	45	45	Do.....	1,104	27	27
Do.....	2,340	1	1	Do.....	1,080	87	87
Do.....	2,304	9	9	Do.....	1,032	1	1
Do.....	2,292	1	1	Do.....	1,020	26	26
Do.....	2,280	2	2	Do.....	1,008	35	35
Do.....	2,256	1	1	Agents, collaborators, clerks, \$996 to \$1.....		447	447
Do.....	2,220	1	1	Clerks.....	1,200	17	8
Do.....	2,208	3	3	Do.....	1,140	1	1
Do.....	2,196	9	9	Do.....	1,100	16	14
Do.....	2,160	1	1	Do.....	1,000	10	9
Do.....	2,100	19	19	Wages, laborers.....	300	8	8
Do.....	2,052	1	1	Salaries.....		\$2,855,150	\$2,250,000
Do.....	2,040	11	11	Wages.....		2,400	2,400
Do.....	2,004	11	11	Other objects of expenditure:			
Do.....	2,000	1	1	Traveling expenses.....		750,000	516,390
Do.....	1,992	4	4	Equipment and material.....		122,950	95,610
Do.....	1,980	38	38	Miscellaneous items.....		7,000	6,000
Do.....	1,956	1	1	Total.....		3,737,500	2,870,400
Do.....	1,920	15	15				
Do.....	1,908	1	1				
Do.....	1,896	3	3				

## 4. EXTENSION WORK IN THE SOUTHERN STATES.

## (a) SUPERVISION.

Allotment, 1918.....	\$25,600
Estimate, 1919.....	90,000

Increase..... 64,400

The regular appropriation for extension work in the Southern States for 1918 is \$659,560, which has been increased by \$1,143,000 from emergency funds, making a total for the entire work of \$1,802,560. The amount that will be available for the southern work during 1919 under regular appropriations will not be increased, but the emergency estimates for next year propose an increase of \$1,159,500. For the administration of the extension work in the 15 Southern States during the current fiscal year there is an allotment of \$17,060 from regular funds and \$25,600 from appropriations under the food production act, or a total of \$42,660. To provide for the additional supervisory and clerical force necessary to direct this work an increase of \$64,400 will be required.



## (b) COUNTY-AGENT WORK.

Allotment, 1918.....	\$566,213
Estimate, 1919.....	1,333,815
Increase.....	767,602

The allotment for county-agent work in the Southern States during the fiscal year 1918 from regular funds is \$488,137 and from emergency funds \$566,213, or a total of \$954,350. With the regular appropriation the work has been carried on in about 640 counties. The emergency funds did not become available in time to be of material assistance in the food-production campaign last season, but it has been possible to proceed with the organization of practically all the counties not hitherto supplied with agents and to put the work in shape for an active campaign during the coming crop season. The regular appropriation for next year will remain unchanged, but an increase of \$767,602 in emergency funds is asked for this work. It is estimated that with this increase it will be possible to carry the work on a full-year basis in all the 1,300 or more agricultural counties in the Southern States. The work of the agents in meeting the demands of farmers and the requirements of the National Government under war conditions has greatly increased in complexity and extent. Expenses for living and travel are much higher and consequently the cost of maintaining these field agents is much greater than formerly.

## (c) BOYS' CLUB WORK.

Allotment, 1918.....	\$82,025
Estimate, 1919.....	75,300
Decrease.....	6,725

During the current fiscal year, in addition to the allotment of \$82,025 from emergency funds, there has been allotted to the boys' club work from regular sources \$26,926, or a total of \$108,951 for the entire work in the Southern States. In the main, the boys' club work in the South involves few special leaders. The responsibility for the organization and conduct of the work rests mainly upon the county agents, who secure whatever voluntary assistance they are able to command, such as county superintendents of schools, school teachers, business men, bankers, farmers, and others. With the use of the regular appropriation about 100,000 boys have been enrolled during the year, in addition to about 20,000 who were enrolled for special war-emergency work. The regular force consists of 19 State leaders, 6 assistant State leaders, and 27 county club agents. In view of the fact that the work was fairly well organized when the emergency appropriation became available, it did not require the appointment of a large number of leaders. Twenty-seven assistant State leaders were appointed, but the number of county club agents was not increased. These agents are at present working on definite campaigns for a great increase in the enrollment of boys in clubs for food and feed production, animal production, etc. A campaign in seed saving is also being conducted. It is planned to conduct the work next year along the same general lines as at present, in close cooperation with the county-agent project, with a force of 4 State leaders and 34 assistant State leaders.

## (d) HOME-DEMONSTRATION WORK.

Allotment, 1918.....	\$449,062
Estimate, 1919.....	803,385
Increase.....	354,323

There is being devoted to this work from regular funds during the present fiscal year \$127,437 and from emergency appropriations \$449,062, making a total of \$576,499 for the home-demonstration project in the South, which includes not only the work with women but also the girls' club work. The regular funds are used in the employment of 14 State leaders, 14 assistant State leaders, 17 district agents, 421 county and assistant county home-demonstration agents, and 10 local colored agents. With the use of emergency funds this force has been increased by the appointment of 29 district agents, 328 county and assistant county home-demonstration agents, and 61 colored women agents in connection with the rural work; and provision has been made for 65 white and 8 colored women agents for the work in cities.

The regular appropriations next year will provide for the employment of 14 State agents, 14 supervisory assistants, 14 district agents, 358 county and assistant county home-demonstration agents, and 10 local colored agents. The emergency funds will make it possible to





employ in addition 15 supervisory assistants, 30 district agents, 579 county and assistant county home-demonstration agents, 75 local colored agents, and 69 white and 8 colored city agents.

*Extension work in the Southern States.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries:			
Agriculturist and field agent.....	\$3,000	3	1
Assistants.....	2,400	5	2
Agents.....	2,508	1	1
Do.....	2,500	15	1
Do.....	2,404	1	1
Do.....	2,400	18	3
Do.....	2,220	1	1
Do.....	2,100	2	2
Do.....	2,004	11	11
Do.....	2,000	31	1
Do.....	1,980	21	1
Do.....	1,920	22	2
Do.....	1,800	171	51
Do.....	1,680	16	1
Do.....	1,620	37	13
Do.....	1,608	2	2
Do.....	1,560	2	2
Do.....	1,512	1	1
Do.....	1,500	50	56
Do.....	1,464	1	1
Do.....	1,440	7	7
Do.....	1,404	31	31
Do.....	1,380	12	12
Do.....	1,320	13	13
Do.....	1,260	1	1
Do.....	1,248	1	1
Do.....	1,200	269	180
Agents \$1 152 to \$1 008.....			76
Agents, collaborators, clerks, and messenger boys, \$956 to \$60.....		1,332	651
Clerks.....	1,200	1	1
Do.....	1,140	1	1
Do.....	1,100	10	5
Do.....	1,000	10	4
Wages: Laborers.....	300	11	11
Salaries.....		\$1,489,268.00	\$983,300.00
Wages.....		3,300.00	3,300.00
Other objects of expenditure:			
Traveling expenses.....		757,932.00	124,400.00
Equipment and material.....		15,000.00	15,000.00
Miscellaneous items.....		37,000.00	17,000.00
Total.....		2,302,500.00	1,143,000.00



## V.

For gathering authoritative information in connection with the demand for and the production, supply, distribution, and utilization of food, and otherwise carrying out the purpose of section two of the act; extending and enlarging the market news service; and preventing waste of food in storage, in transit, or held for sale; advise concerning the market movement or distribution of perishable products; for enabling the Secretary of Agriculture to inspect and certify perishable agricultural products, as provided in the agricultural appropriation act for the fiscal year nineteen hundred and nineteen, \$2,368,958.

### BUREAU OF MARKETS.

#### 1. MARKET NEWS SERVICE ON FRUITS AND VEGETABLES.

Allotment, 1918.....	\$655, 300
Estimate, 1919.....	601, 770
Decrease.....	53, 530

With the funds made available under the food production act 18 or 20 permanent offices and about 100 temporary field stations will be maintained in addition to the 12 permanent and 50 temporary stations opened before the emergency appropriation became available. Permanent branch offices have already been established in 24 of the more important markets east of the Rocky Mountains. The opening of stations in Los Angeles, San Francisco, Seattle, and Spokane, connected by leased wires, will probably be accomplished in the near future and will constitute an entirely new development of the work. Offices will also be opened in Butte, Fargo, Louisville, Dallas, and other consuming centers as the need is demonstrated.

The framework of a complete national machine for the collection and interchange of shipment and market information on the fruit and vegetable products of this country will be practically completed by the end of the present fiscal year. Supplementing the telegraphic service, daily market reports are being furnished free to almost every important grower or shipper of reported products east of the Rocky Mountains and to a number of producing areas in the Pacific coast States. These reports are delivered from 5 to 30 hours after prices are ascertained.

Twenty-five crops are being reported upon this year, 17 of which are covered by the emergency appropriations. It is planned to issue reports on 33 crops next year. The expenses incident to three out of four of the telegraphic circuits now maintained are paid from emergency funds, as well as the expenses of issuing about 7,000,000 of the 10,000,000 daily bulletins. Of the 25 crops reported upon, a national service has been given on 11, the service on the remaining 14 having been limited to special producing areas. A continuation of the emergency appropriation is necessary if there is to be rendered through the winter months an uninterrupted service on staple fruits and vegetables, which under rules now governing licensed dealers must be held on the farm in larger quantity than ever before.

In order to gather authoritative information regarding the demand for and the production, supply, distribution, and utilization of fruits and vegetables which may be necessary to make this news service more effective, some portion of these funds will be devoted to investigational work, if necessary, as authorized in section 2 and paragraph 5 of section 8 of the food production act.

In view of the increase of \$50,000 carried in the regular appropriation bill for the fiscal year 1919 for work of this character, it will be possible to reduce the allotment under emergency funds correspondingly.





*Market news service on fruits and vegetables.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialist.....	\$3,300		1
Assistants in market surveys.....	2,400	3	
Do.....	2,100	1	1
Do.....	2,040	4	3
Do.....	2,000	1	1
Do.....	1,980	1	1
Do.....	1,900	1	1
Do.....	1,800	6	6
Do.....	1,620	8	8
Do.....	1,500	5	4
Do.....	1,400	15	13
Do.....	1,300	2	2
Do.....	1,200	10	10
Clerks.....	1,600	2	
Do.....	1,500	1	1
Do.....	1,400	7	1
Do.....	1,320	1	1
Do.....	1,260	2	2
Do.....	1,200	25	14
Do.....	1,100	7	6
Do.....	1,080	4	4
Do.....	1,020	2	2
Do.....	1,000	59	55
Do.....	960	9	9
Telegraphers.....	1,400	14	3
Do.....	1,300	1	1
Do.....	1,200	43	43
Do.....	1,080	6	6
Do.....	1,000	1	1
Clerks and messengers, \$800 to \$360.....		33	33
Clerks, \$75 to \$45.....per month.....			125
Clerks.....per diem.....	3		115
Wages:			
Laborers, \$840 to \$300.....per annum.....		2	25
Salaries.....		\$300,260.00	\$181,522.00
Wages.....		1,560.00	1,320.00
Other objects of expenditure:			
Stationery.....		75,000.00	50,000.00
Traveling expenses.....		63,680.00	50,680.00
Equipment and material.....		21,780.00	19,780.00
Miscellaneous items.....		139,480.00	101,800.00
Total.....		601,770.00	401,612.00

<sup>1</sup> Temporary.<sup>2</sup> 4 temporary.

## 2. MARKET NEWS SERVICE ON LIVE STOCK AND MEATS.

Allotment, 1918.....	\$275,200
Estimate, 1919.....	431,160
Increase.....	155,960

With the use of the regular appropriation devoted to this work, branch offices have been maintained at Boston, New York, Philadelphia, Chicago, Kansas City, and Omaha. With emergency funds offices have been established at Fort Worth, Portland (Oreg.), Rocky Ford (Colo.), Lancaster (Pa.), St. Paul, and Los Angeles. These offices are connected by leased-wire circuits. It is planned to open, before the end of the present fiscal year, offices in Denver, St. Louis, Salt Lake City, Jacksonville (Fla.), Pittsburgh, Baltimore, and Indianapolis. If the increase requested for this work should be granted, market offices will be opened in New Orleans and El Paso, and feeding district offices at Fort Collins (Colo.) and at points in the Flint Hills section of Kansas, the "Osage country" in Oklahoma, southwest Virginia, the Scottsbluff district of Nebraska, Wood County district of Ohio, northwest Missouri, Big Hole Basin, Mont., and the Panhandle of Texas.

More than 200,000 market reports are being distributed per month. These consist of daily reports on meat-trade conditions and wholesale prices of fresh beef and mutton at distributing centers and of live-stock loadings for the United States west of the Allegheny Mountains; weekly reports of wholesale prices of fresh beef and mutton and a weekly review of meat-trade conditions; a monthly report of live-stock receipts, shipments, and slaughter at stock-yards; and monthly reports on stocks of frozen and cured meats, frozen poultry, and eggs. Without the use of emergency funds it is estimated that no more than 50,000 bulletins could be issued.





Certain feeding districts have been selected for preliminary trials of a reporting service designed to show the "in-and-out" movement of cattle and sheep in special feeding areas, and offices have been established at Lancaster, Pa., and Rocky Ford, Colo., to handle this phase of the work in the Lancaster district and in the Arkansas Valley, respectively. Reports of the movement of feeding stock and the available supply of marketable meat animals in these districts have been issued since December, 1917. Accurate information heretofore unavailable regarding the number of meat animals on hand in the principal feeding and grazing sections will be of great value in forecasting the supply of meats of different classes and thereby will assist stockmen to regulate the marketing of their stock in accordance with the visible supply of animals in producers' hands in the various sections.

In order to gather such authoritative information regarding the demand for and the production, supply, distribution, and utilization of live stock and meats as may be needed to make this news service more effective, some portion of these funds will be devoted to investigational work, if necessary, as authorized by section 2 and paragraph 5 of section 8 of the food production act.

*Market news service on live stock and meats.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1913.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Assistant.....	\$2,400	2	1
Do.....	2,100	1	1
Do.....	2,040	11	5
Do.....	1,800	10	5
Do.....	1,620	22	5
Do.....	1,440	4	4
Do.....	1,320	2	2
Do.....	1,200	4	4
Clerks.....	1,400	6	3
Do.....	1,200	13	8
Do.....	1,100	9	9
Do.....	1,000	7	7
Do.....	960	1	1
Telegraphers.....	1,400	11	.....
Do.....	1,200	9	9
Do.....	1,080	2	2
Clerks, \$900 per annum to \$3 per diem.....		4	1 10
Wages: Laborers, \$600 to \$300.....			2 11
Salaries.....		\$169,160.00	\$98,600.00
Wages.....			3,600.00
Other objects of expenditure:			
Stationery.....		50,000.00	30,000.00
Traveling expenses.....		12,000.00	8,500.00
Equipment and material.....		64,500.00	38,000.00
Miscellaneous items.....		135,500.00	76,500.00
Total.....		431,160.00	255,200.00

<sup>1</sup> Six temporary.

<sup>2</sup> Temporary.

### 3. MARKET NEWS SERVICE ON BUTTER, CHEESE, EGGS, AND POULTRY.

Allotment, 1918.....	\$220,800
Estimate, 1919.....	164,000
Decrease.....	56,800

Since September 1, 1917, monthly reports showing the production for the current month and corresponding month of the previous year of butter, cheese, condensed milk, and manufactured milk products of all classes produced in over 12,000 dairy manufacturing plants in the United States have been issued from Washington. In establishing a market news service on dairy and poultry products branch offices have been opened in New York, Chicago, Boston, and Philadelphia, and arrangements have been made for the establishment of similar offices in Minneapolis, San Francisco, and other important wholesale distributing markets. Daily market news bulletins on butter and eggs and weekly bulletins on cheese are issued from these offices. These bulletins include information regarding the market receipts, amounts moved into and out of storage, and the daily balance on hand; also the amounts carried over each day in the hands of wholesale receivers and jobbers, together with information relative to market conditions and prices of these products.

The War Trade Board, the Food Administration, other branches of the Government service, also many organizations and individual members of the trade, rely to a great extent upon these



market bulletins and reports for accurate data relative to the production, market supply, distribution, and values of dairy and poultry products. Heretofore the storing of these products has been mostly a speculative investment based largely on guesswork or inadequate information for their most economical marketing and distribution.

In order to gather such authoritative information regarding the demand for and the production, supply, distribution, and utilization of dairy and poultry products as may be needed to make this service more effective, some portion of these funds will be devoted to investigational work, if necessary, as authorized by section 2 and paragraph 5 of section 8 of the food production act.

*Market news service on butter, cheese, eggs, and poultry.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialist.....per annum..	\$3,000	1	1
Assistant.....do.....	2,400	1	1
Do.....do.....	2,220	1	1
Do.....do.....	2,000	1	1
Do.....do.....	1,800	3	3
Do.....do.....	1,620	10	7
Do.....do.....	1,500	3	3
Clerks.....do.....	1,200	5	5
Do.....do.....	1,100	2	2
Do.....do.....	1,000	13	11
Do.....do.....	900	10	7
Do.....per diem.....	3		<sup>1</sup> 10
Telegraph operators.....per annum..	1,200	10	8
Wages: Laborers.....do.....	300		<sup>1</sup> 4
Salaries.....		\$77,500	\$58,800
Wages.....			1,200
Other objects of expenditure:			
Stationery.....		15,000	10,000
Traveling expenses.....		7,000	10,000
Material and equipment.....		16,960	20,000
Miscellaneous items.....		47,540	25,000
Total.....		164,000	125,000

<sup>1</sup> Temporary.

#### 4. MARKET NEWS SERVICE ON GRAIN, HAY, FEEDS, AND SEEDS.

Allotment, 1918.....	\$227,700
Estimate, 1919.....	180,720
Decrease.....	46,980

Since the service was inaugurated in August, 1917, the country has been divided for the purposes of this work into ten districts, and offices have been opened in New York, Richmond, Va., Kansas City, Mo., Atlanta, Chicago, Minneapolis, and Oklahoma City. Offices will soon be opened at Denver, San Francisco, and Spokane.

Biweekly reports, showing the stocks of grain, hay, and milled feeds in dealers' hands and the probable receipts and shipments for the preceding two weeks, together with prevailing prices, are sent to grain and hay producers, dealers, food manufacturers, and buyers of food-stuffs, grain, and hay. This information also is utilized by the Council of National Defense in locating supplies of grain and hay for army cantonments.

Through the machinery developed in connection with the grain and hay reporting service it was possible to assist in saving from starvation thousands of cattle in the drought-stricken area of Texas by rendering a daily news service especially adapted to this exigency. Owing to the threatened serious losses of soft corn, the facilities afforded by this reporting service were again utilized for emergency work and the Director General of Railroads was given specific information regarding the exact location and quantities of soft corn, the number of cars needed to transport it, and the date on which these cars could be used.

In connection with the seed-reporting service, branch offices have been established in Minneapolis, Chicago, Kansas City, Atlanta, and Spokane, and it is expected to open offices in New York, Denver, San Francisco, and Fort Worth in the near future.

Information regarding crop and market conditions is gathered and published in the "Seed Reporter," which is issued monthly or oftener as seems desirable. This publication deals with such matters as seed-crop movement, receipts and shipments at important markets, im-





ports, available supply, demand in principal consuming sections, prices, etc., and is sent to practically all seed dealers, shippers, and growers.

In cooperation with the Department Seed Stocks Committee, work is conducted to further the efficient distribution of seed. Especial attention has been given the drought-stricken areas of Texas, Montana, and North Dakota.

In order to gather such authoritative information regarding the demand for and the production, supply, distribution, and utilization of grain, hay, feeds, and seeds as may be necessary to make this service more effective, some portion of these funds will be devoted to investigational work, if necessary, as authorized by section 2 and paragraph 5 of section 8 of the food production act.

*Market news service on grain, hay, feeds, and seeds.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialist.....	\$3,240		1 <sup>1</sup>
Investigator.....	2,760	1	
Do.....	2,640	1	1
Do.....	2,520	2	1
Do.....	2,400	2	2
Do.....	1,800	1	1
Assistant.....	2,400	1	1
Do.....	2,040	1	1
Do.....	1,980	1	1
Do.....	1,800	10	7
Do.....	1,620	3	1
Do.....	1,600	1	1
Do.....	1,500	5	4
Do.....	1,200	5	5
Do.....	1,020	1	1
Grain supervisor.....	2,760	1 <sup>1</sup>	
Do.....	2,500	1 <sup>1</sup>	
Do.....	1,800		1 <sup>1</sup>
Do.....	1,620		1 <sup>1</sup>
Grain sampler.....	1,320		1
Do.....	1,020		1
Clerks.....	1,200	7	4
Do.....	1,100	3	3
Do.....	1,080	4	3
Do.....	1,000	7	7
Do.....	960	1	1
Do.....	900	3	1
Do.....	840	1	1
Do.....	720	1	
Clerks, \$75 per month to \$3 per diem.....			2 <sup>9</sup>
Salaries.....		\$88,480	\$61,380
Other objects of expenditure:			
Stationery.....		10,000	7,000
Travel.....		29,657	22,000
Material and equipment.....		11,000	11,200
Miscellaneous items.....		41,583	36,333
Total.....		180,720	137,913

<sup>1</sup> Part time.

<sup>2</sup> Temporary.

## 5. FOOD AND FERTILIZER SURVEYS OF THE UNITED STATES.

Allotment, 1918.....	\$600,000
Estimate, 1919.....	449,700
Decrease.....	150,300

Surveys have been made of (a) quantities of raw food products on farms, (b) stocks in the hand of manufacturing, storing, and wholesale and retail concerns, (c) quantities of certain kinds of food preserved for home use, quantities actually on hand in the household, and estimated amounts of family consumption, and (d) fertilizing materials.

(a) With the cooperation of the Bureau of Crop Estimates, information regarding stocks on farms, principally quantities of cereals and numbers of live stock, including poultry, were obtained as of August 31, 1917, and in a more comprehensive way as of December 31, 1917.

(b) For commercial concerns, a preliminary survey covering 18 items was made under date of August 31, 1917, and a more comprehensive survey covering 86 items under date of December 31, 1917. Schedules were sent out by mail to all concerns whose names and addresses could be ascertained. In connection with the more comprehensive survey, 500,000 schedules had been returned by the end of February. Special surveys of retail establishments were



made by personal canvass in 41 representative counties, including cities of all sizes, for the purpose of obtaining complete returns from such establishments in these representative communities. The information obtained in this way is being used to check by comparison the returns received by mail and to furnish a basis for estimating the holdings of very small concerns whose names and addresses generally could not be ascertained.

(c) Surveys have been undertaken and are approaching completion by placing more than 40,000 schedules in the hands of representative families in the various States, requesting information concerning the preservation, uses, holdings, and consumption of foods in the household as a basis for making estimates for the 22,000,000 families of the entire country. A separate dietary survey is under way for the purpose of collecting detailed information from a large number of families at all seasons of the year in order to show food habits and customs, food waste and consumption, and the use of food according to its nutritive value.

(d) A fertilizer survey was made showing the stocks on hand of 26 items of important fertilizer material as of October 1, 1917.

Further food surveys should be made and monthly reports obtained regarding important items of food, such as wheat, flour, corn, beans, sugar, pork products, potatoes, etc., held by leading classes of concerns, especially manufacturers, storages, and large wholesale establishments, in order to secure information necessary to formulate policies regarding the conservation of foods and the encouragement of production. Dietary surveys should be completed and additional fertilizer surveys be provided for.

*Food and fertilizer surveys of the United States.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialist.....	\$3, 780	<sup>1</sup> 1	1
Assistant.....	2, 400	1	
Do.....	2, 220	1	1
Do.....	1, 500	1	1
Clerks.....	1, 800	2	
Do.....	1, 680	1	1
Do.....	1, 620	5	5
Do.....	1, 400	5	5
Do.....	1, 320	1	1
Do.....	1, 200	26	26
Do.....	1, 100	40	35
Do.....	1, 000	74	50
Clerks, messengers, and telephone operators, \$900 to \$420.....		53	40
Multigraph operator.....	1, 200	1	1
Do.....	1, 000	1	1
Clerks <sup>2</sup> .....	3	<sup>3</sup> 140	<sup>3</sup> 236
Wages:			
Laborers and charwomen, \$924 to \$240.....		7	7
Laborers.....	300		<sup>3</sup> 100
Salaries.....		\$280, 186	\$234, 986
Wages.....		3, 514	11, 014
Other objects of expenditure:			
Stationery.....		20, 000	20, 000
Traveling expenses.....		38, 000	28, 000
Equipment and material.....		56, 000	71, 000
Miscellaneous items.....		52, 000	81, 000
Total.....		449, 700	446, 000

<sup>1</sup> Part time.

<sup>2</sup> Per diem.

<sup>3</sup> Temporary.

## 6. CONSERVATION AND FOOD PRODUCTS IN TRANSPORTATION AND STORAGE.

Allotment, 1918.....	\$200, 700
Estimate, 1919.....	229, 937
Increase.....	29, 237

Demonstrations have been made to secure as quickly as possible the practical and effective application of the fundamental principles worked out as a result of investigations and experiments in the proper handling of perishable food products. This work involves such matters as the demonstration of the amount of waste and deterioration of perishable and other food products due to (a) delays prior to shipment, in transit, and at terminals; (b) inefficient methods of storing in cars, (c) inefficiency of containers, (d) unnecessarily long hauls, (e) inefficient refrigerator-car construction, (f) too long storage, (g) ill-adapted types of storage, and similar matters. Corrective measures are applied whenever possible.





Specialists in handling fruits and vegetables conduct demonstrational work in producing sections, and advice is given to producers regarding the construction and efficient use and management of storage houses and other problems. Carriers are urged to use refrigerator cars possessing increased refrigeration efficiency with a decreased use of ice.

Assistance is rendered by transportation specialists in solving problems of car supply, maximum loading, diversions, faster unloading, etc. The efficient use of piers and other terminal facilities is demonstrated and service is given in securing better distribution of cars throughout the country. It is necessary to continue to assist shippers and transportation agencies to secure cars and extend the educational campaign looking to the loading of cars more heavily and speedily, the elimination of delays in transit, and reduction of the practice of hauling empty cars.

In order to gather such authoritative information as may be necessary to render this work most effective, some portion of these funds may be devoted to investigations regarding the transportation and storage of food products, as authorized by section 2 and paragraph 5 of section 8 of the food production act.

*Conservation of food products in transportation and storage.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Pomologist.....	\$3,000	1	1
Investigators.....	2,400	5	3
Do.....	2,280	1	1
Do.....	2,100	1	1
Do.....	2,000	13	10
Do.....	1,800	2	1
Assistants.....	2,400	1	1
Do.....	2,100	1	..
Do.....	2,000	5	5
Do.....	1,680	2	2
Do.....	1,620	4	2
Do.....	1,512	1	..
Do.....	1,500	1	1
Do.....	1,440	11	10
Do.....	1,200	4	4
Draftsman.....	1,800	1	..
Do.....	1,200	2	2
Do.....	990	2	1
Clerks.....	1,890	..	1 1
Do.....	1,440	1	..
Do.....	1,400	1	..
Do.....	1,200	7	6
Do.....	1,000	5	5
Messengers.....	480	3	2
Salaries.....		\$120,472	\$81,682
Other objects of expenditure:			
Stationery.....		3,000	2,500
Traveling expenses.....		73,062	84,423
Material and equipment.....		7,950	9,835
Miscellaneous items.....		25,453	22,260
Total.....		229,937	200,700

<sup>1</sup> Part time.

7. MARKET INSPECTION OF PERISHABLE FOODS.

Allotment, 1918.....	\$113,000
Estimates, 1919.....	51,000
Decrease.....	62,000

With an allotment of \$113,000 under the food production act the inspection service has been established in 23 of the principal markets (8 of which are served by inspectors stationed in other markets), and a sufficient number of inspectors have been appointed and are in training to cover 11 additional markets in which the service is about to be inaugurated.

The regular appropriation bill for 1919 carries an item of \$113,000 for the continuation of this work next year. It is estimated, however, that an additional \$50,000 will be needed to extend the service to approximately 13 important markets not now covered. As a result of the institution of this service, the prompt release has been effected of many freight cars which formerly would have been held pending the settlement of disputes regarding the condition of their contents. This service has also resulted in preventing the deterioration and loss of a large quantity of fruits and vegetables which would have occurred had they been held in the





cars for an undue length of time. There is a great demand on the part of producers and others for the continuation and extension of this service, as the inspection certificates furnish the best existing basis for the adjustment of claims and differences of opinion regarding the quality of commodities.

*Market inspection of perishable foods.*

Employees.	Rate per annum.	Required for for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Supervising inspector.....	\$3,000		1
Do.....	2,500		1
Do.....	2,400		4
Inspectors.....	1,800	15	4
Do.....	1,500		6
Investigators.....	2,000		7
Do.....	1,800		8
Do.....	1,700		1
Do.....	1,680		1
Do.....	1,500		2
Assistant.....	1,800		1
Do.....	1,620		1
Do.....	1,600		1
Do.....	1,500		2
Do.....	1,440		1
Do.....	1,200		2
Clerks.....	1,200	15	4
Do.....	1,100	1	1
Salaries.....		\$36,000	\$66,000
Other objects of expenditure:			
Stationery.....		500	2,000
Traveling expenses.....		8,000	17,000
Supplies and equipment.....		1,500	10,000
Miscellaneous items.....		5,000	3,000
Total.....		51,000	98,000

<sup>1</sup> Half time.

### 8. CITY MARKET SERVICE.

Allotment, 1918.....	\$86,200
Estimate, 1919.....	66,131
Decrease.....	20,069

The city market service developed with funds provided by the food production act has been conducted in eight cities—Providence, Albany, Boston, Cleveland, Denver, Grand Rapids, St. Paul, and Springfield, Mass. It furnishes to several thousand market gardeners and farmers who haul their products into these large cities accurate daily information regarding supplies and prices of home-grown products in their own market, thus serving a large class of producers who are not interested to any great extent in the telegraphic market news service on carlot products. The work is conducted in connection with large public farmers' markets, where the total supplies are tabulated early in the morning and posted as a guide to aid both producers and buyers in quickly arriving at fair prices. Through the publication of daily quantity and price information in nontechnical form in local newspapers the service also is made of great value to consumers. It has had a marked effect in stimulating the use of products that were plentiful and cheap, thereby helping to avoid gluts.

With a view to make the service of the greatest usefulness to consumers and to extend the benefits to producers of market products other than fruits and vegetables, daily reports for publication in the local press are now being prepared in several cities on the supply and prices of vegetables and fruits shipped in, as well as those grown near by, and of poultry, dairy, and certain meat products, and cereals. These reports guide the housewife in buying and aid greatly in moving any market surplus, to the distinct advantage of the producer.

It is believed that the usefulness of this service can be greatly increased by enlarging the number of cities served and by bringing them into closer relationship through an inter-community market information system which will make possible the transfer of commodities from one city where a surplus exists to other communities in the same section in which there is a dearth of such products.



*City market service.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Investigators.....per annum..	\$1,800	1	1
Do.....do.....	1,701	1	1
Do.....do.....	1,600	1	1
Do.....do.....	1,400	1	1
Agents (part salary).....do.....	1,800	6	6
Do.....do.....	1,500	12	8
Do.....do.....	1,400	6	4
Do.....do.....	750	.....	1
Do.....do.....	700	.....	1
Do.....do.....	600	.....	4
Clerks.....do.....	1,500	1	1
Do.....do.....	1,200	2	1
Do.....do.....	1,000	2	2
Do.....per month.....	100	1 20	1 1
Do.....do.....	60	.....	1 1
Salaries.....		\$40,901.00	\$27,683.83
Other objects of expenditure:			
Stationery.....		2,000.00	1,200.00
Traveling expenses.....		5,810.00	5,130.00
Supplies and equipment.....		4,200.00	4,600.00
Miscellaneous items.....		13,220.00	5,500.00
Total.....		66,131.00	44,113.83

<sup>1</sup> Temporary.

## 9. DIRECT MARKETING ACTIVITIES.

Allotment, 1918.....	\$43,100
Estimate, 1919.....	85,100
Increase.....	42,000

With the funds devoted to this project during the current fiscal year educational work has been conducted in acquainting producers with the proper methods of preparing, packing, and shipping farm produce in such manner as to facilitate its sale direct to consumers. The advantages to be derived from direct marketing are brought to the attention of both producer and consumer. The possibility of marketing produce direct should conduce to larger production by adding to the number of available outlets. The present congestion of freight and express traffic makes it desirable to supplement transportation facilities whenever possible, and experiments are being conducted in cooperation with the Post Office Department to determine the suitability of motor-truck transportation for nonmanufactured food products within an appropriate radius of consuming centers.

The funds for carrying on this project next year should be increased in order to make it possible to bring to the attention of a greater number of producers the methods necessary for success in direct marketing operations. This work is especially necessary during the present emergency, since much farm produce goes to waste because no market is convenient.

*Direct marketing activities.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Investigator.....	\$2,400	1	1
Do.....	2,040	1	1
Assistants.....	1,800	3	3
Do.....	1,620	8	8
Do.....	1,440	9	.....
Do.....	1,200	4	.....
Clerks.....	1,300	1	1
Do.....	1,200	1	1
Salaries.....		\$40,320	\$18,140
Other objects of expenditure:			
Stationery.....		1,000	500
Traveling expenses.....		15,000	13,960
Supplies and equipment.....		9,800	5,500
Miscellaneous items.....		18,980	5,000
Total.....		85,100	43,100





## 10. SPECIAL MARKETING ACTIVITIES.

Allotment, 1918.....	\$100, 000
Estimate, 1919.....	109, 440
Increase.....	9, 440

The necessity for conserving food products in every possible way often makes it essential to render assistance in the marketing of specific commodities. In rendering such assistance one of the most practical methods of eliminating marketing difficulties is the formulation of grades, for proper grading will do much to facilitate distribution and cut down the loss from decay of food products caused by mixing sound with unsound commodities. It also does much to relieve the strain on the transportation facilities of the country by keeping unmerchantable products from market. The department has assisted in preparing and publishing grades for potatoes, and work is now being conducted with apples, peanuts, and sweet potatoes. Work is under way also to develop grades for cotton seed. Improved methods of marketing cotton seed not only will eliminate waste and add to the food and feed supply of the Nation, but will assist in relieving the transportation situation by obviating the shipment of enormous quantities of foreign material now annually transported in freight cars.

Specific instances are constantly arising where cooperative methods must be adopted if marketing operations are to be conducted with efficiency and food products conserved, and the department should be in position to answer calls for assistance from those who can not advantageously market their products individually.

It is necessary also to give greater attention to the subject of foreign marketing. Since the United States is called upon not only to share its surplus, but also its necessities, with the allied and neutral countries of Europe, it is essential, besides stimulating American production to the utmost, to obtain first-hand information regarding the supply of and demand for food products, as well as other marketing and distribution factors, in foreign countries.

*Special marketing activities.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		Number.	Number.
Investigators.....	\$3, 000	3	6
Do.....	2, 500	6	2
Do.....	2, 280	2	4
Do.....	2, 000	4	6
Assistants.....	1, 800	10	5
Clerks.....	1, 600	3	5
Do.....	1, 200	5	5
Do.....	1, 000	5	5
Salaries.....		\$62, 940	\$34, 000
Other objects of expenditure:			
Stationery.....		1, 500	500
Traveling expenses.....		34, 480	21, 250
Supplies and equipment.....		4, 550	8, 500
Miscellaneous items.....		5, 970	6, 250
Total.....		109, 440	70, 500



# VI.

For miscellaneous items, including the salaries of Assistant Secretaries appointed under the act approved August 10, 1917; special work in crop estimating; aiding agencies in the various States in supplying farm labor; enlarging the informational work of the Department of Agriculture; and printing and distributing emergency leaflets, posters, and other publications requiring quick issue or large editions, \$1,080,980, of which sum not exceeding \$15,000 shall be available for rent in the District of Columbia.

## GENERAL ADMINISTRATION (OFFICE OF THE SECRETARY).

Allotment, 1918.....	\$75,000
Estimate, 1919.....	76,420
Increase.....	1,420

The enlarged activities of the department during the present emergency necessarily have resulted in a great increase in the administrative work. In order to provide for its prompt handling, additional assistance is required, not only in the immediate office of the Secretary, but also in the offices of the three Assistant Secretaries, the chief clerk's office, other branches of the Office of Secretary, and in connection with the legal and accounting work. The amount recommended will provide for the payment of the salaries of two Assistant Secretaries and also for the employment of necessary clerical and other emergency assistance and for office supplies, equipment, and miscellaneous expenses incident to the emergency activities.

### General administration (Office of the Secretary).

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Assistant Secretaries.....per annum..	\$5,000.00	2	2
Assistant to the Secretary.....do....	3,300.00	1	1
Do.....do....	2,750.00	1	1
Special assistant.....do....	3,000.00	1	1
Do.....do....	2,000.00	1	1 <sup>2</sup>
Administrative assistant.....do....	2,580.00	1	1
Clerks.....do....	1,600.00	2	2 <sup>3</sup>
Do.....do....	1,470.00	3	3 <sup>2</sup>
Do.....do....	1,400.00	4	4
Do.....do....	1,386.00	1	1
Do.....do....	1,350.00	1	1
Do.....do....	1,260.00	4	4 <sup>4</sup>
Do.....do....	1,200.00	6	6 <sup>5</sup>
Do.....do....	1,000.00	3	3
Compositor (rubber-stamp work).....do....	1,200.00	1	1
Telephone operators.....do....	720.00	3	6 <sup>6</sup>
Messenger boys.....do....	600.00	1	1
Do.....do....	480.00	4	7 <sup>5</sup>
Messenger girls.....do....	480.00	1	8 <sup>2</sup>
Wages: Laborers.....per month..	60-25	5	9 <sup>5</sup>
Salaries.....		\$61,176.00	\$44,891.46
Wages.....		544.00	322.51
Other objects of expenditure:			
Traveling expenses.....		4,200.00	1,567.11
Supplies and equipment.....		6,500.00	5,200.00
Miscellaneous items.....		4,000.00	3,568.11
Total.....		76,420.00	55,549.19

<sup>1</sup> 1 for 6 months.

<sup>2</sup> 1 for 1½ months.

<sup>3</sup> 1 for 3½ months.

<sup>4</sup> 1 for 3 months.

<sup>5</sup> 1 for 5 months; 2 for 3 months.

<sup>6</sup> 3 for 1 month.

<sup>7</sup> 1 for 26 days.

<sup>8</sup> 1 for 7 days.

<sup>9</sup> 2 months.





PUBLICATION AND INFORMATIONAL WORK.

Allotment, 1918.....	\$234, 800
Estimate, 1919.....	235, 000
Increase.....	200

The work under this item includes the preparation, printing, and distribution of emergency leaflets, circulars, bulletins, and posters; increasing the circulation of the Weekly News Letter to special temporary lists; supplying information in readily available form to daily newspapers, country weeklies, the agricultural press, and certain classes of trade journals; and other publication and informational activities of an emergency character. The work of the Division of Publications and of the Office of Information has greatly increased since the existence of a state of war was declared, and it is necessary that additional assistance and equipment be provided in order that they may keep pace with the demands made upon them.

Of the amount herein recommended, \$200,000 will be needed for additional printing. A similar sum was allotted under the food production act for expenditures during the current fiscal year. The work of diffusing information for increased production under the provisions of the act falls chiefly in the spring and early summer months, and it seems certain that the entire allotment will be expended by the end of the current fiscal year. It should be borne in mind, in this connection, that the fund for next year will need to cover an entire 12-month period, whereas the present allotment was not available until August 10.

The remainder of the proposed allotment, \$35,000, will be required for the employment of necessary emergency assistance in the Office of Information and the Division of Publications and for the purchase of additional supplies and equipment.

Publication and informational work.

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries:			
Assistants.....per annum	\$2,000.00	2	1 2
Draftsmen.....do	1,200.00		2
Clerks.....do	1,200.00	1	1
Do.....do	900.00	3	
Do.....do	840.00	6	6
Messenger boys.....do	480.00	2	10
Multigraph operators.....do	1,200.00	5	
Wages:			
Skilled laborers.....do	840.00	8	
Do.....per diem	2.00		2 8
Salaries.....		\$19,960.00	\$15,992.00
Wages.....		6,720.00	480.00
Other objects of expenditure:			
Printing.....		200,000.00	69,121.29
Equipment.....		3,320.00	6,645.00
Supplies.....		5,000.00	7,964.00
Total.....		235,000.00	100,202.29

<sup>1</sup> One for one month.

<sup>2</sup> One month.

AGRICULTURAL EXHIBITS.

Allotment, 1918.....	\$7, 900
Estimate, 1919.....	18, 020
Increase.....	10, 120

This work consists of the preparation, shipment, installation, and demonstration of exhibit matériel for use at fairs, expositions, and in other ways, illustrating improved methods of food production, conservation, marketing, and utilization. It is estimated that the exhibits at various fairs during the present fiscal year were viewed by approximately 400,000 persons. The department believes that this method of bringing its work to the notice of the public has been productive of beneficial results and that provision should be made for its extension next year. The funds at present available have been entirely inadequate to meet the demands for work of this character. There has been a constantly increasing interest in the exhibits of the department, which during the past year have related almost entirely to conservation and production activities.





*Agricultural exhibits.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Assistant.....per annum.	\$1,200	1	1
Clerk.....do....	1,100	1	1
Wages:			
Unskilled laborer.....do....	720	1	1
Temporary laborers.....per diem..	2	25	25
Salaries.....		\$2,300	\$1,550
Wages.....		3,720	1,780
Other objects of expenditure:			
Traveling expenses.....		4,000	1,150
Equipment and material.....		7,000	2,700
Miscellaneous items.....		1,000	720
Total.....		18,020	7,900

**RENT.**

Allotment, 1918.....	\$15,000
Estimate, 1919.....	15,000

Every branch of the department, especially those conducting large emergency activities, is overcrowded. It is essential for the efficient prosecution of the work that additional space be provided. The urgent deficiency act of October 6, 1917, authorizes the use of not to exceed \$15,000 of the appropriations made by the food production act for the rental of buildings in the District of Columbia. With these funds the following space has been secured:

Space in Homer Building, Thirteenth and F Streets N.W. (Bureaus of Markets and Plant Industry)...	\$8,500
Space in Bank of Commerce and Savings Building, Seventh and E Streets N.W. (Bureau of Markets)...	5,200
1312 B Street N.W. (States Relations Service).....	1,000

Total..... 14,700

Not only will it be necessary to continue to occupy this space during the fiscal year 1919, but with the rapid development of the work additional quarters will be required. The agricultural appropriation bill which is now pending in Congress carries an increase in the rent fund of \$15,000, but this will be wholly insufficient to meet the needs of the department unless the authorization to use a similar sum from the emergency appropriations is continued. The importance of this matter can not be too strongly emphasized.

*Rent.*

Building.	Required for 1919.	Estimated expenditures for 1918.
Space in Homer Building, Thirteenth and F Streets N. W. (Bureaus of Markets and Plant Industry).....	\$8,500.00	\$4,958.31
Space in Bank of Commerce and Savings Building, Seventh and E Streets N. W. (Bureau of Markets).....	5,200.00	1,795.83
No. 1312 B Street S.W. (States Relations Service).....	1,000.00	624.97
Total.....	14,700.00	7,379.11

**ASSISTANCE IN SUPPLYING FARM LABOR.**

Allotment, 1918.....	\$97,250
Estimate, 1919.....	162,000

Increase..... 64,750

In order to deal systematically and effectively with the farm labor problem, the department has been working in cooperation with the Department of Labor and with appropriate State agencies. It has placed in nearly every State of the Union, in touch with the local agencies, the best available man (1) to make surveys of farm labor conditions; (2) to bring about fuller cooperation in the utilization of labor among farmers in the same community; (3) to assist in shifting labor from one community or one State to another; and (4) to bring into service kinds of labor not heretofore fully or regularly employed in farming operations, such as boys of high-school age with some knowledge of farming.



Four supervising farm-help specialists have been appointed for the Northeastern, North-Central, Western, and Southern States, respectively. These specialists supervise the activities of the State men and systematize and coordinate their efforts in every possible way. It is highly essential that the organization dealing with the farm labor problem be further expanded and developed during the next fiscal year. The increase in the amount recommended for this work is due primarily to the fact that the new estimate covers an entire fiscal year, while the funds made available under the food production act during the present year covers only 10 months, and in the case of some States only three or four months. Provision also has been made for a reserve fund of \$10,000 to enable the department to meet unforeseen contingencies which may arise during the course of the year in connection with the work.

*Assistance in supplying farm labor.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Supervising farm-help specialists.....	\$2,500	2	2
Do.....	2,250	2	2
Farm-help specialists.....	2,100	1	1
Do.....	2,000	3	3
Do.....	1,800	27	21
Do.....	1,620	1	1
Do.....	1,575	1	1
Do.....	1,500	5	5
Do.....	1,200	4	4
Do.....	1,900	1	1
Clerks.....	1,200	4	2
Salaries.....		\$92,200	\$48,049
Other objects of expenditure:			
Stationery.....		4,000	.....
Traveling expenses.....		47,800	48,201
Telegraph and telephone service.....		1,000	300
Miscellaneous items.....		17,000	700
Total.....		162,000	97,250

**BUREAU OF CHEMISTRY.**

**1. POULTRY AND EGG DEMONSTRATIONS.**

Allotment, 1918.....	\$20,000
Estimate, 1919.....	50,000
Increase.....	30,000

An allotment of \$20,000 was made under the food production act for the extension of the demonstration work relating to the handling of poultry and eggs. It is well known that the improper handling and distribution of these products cause enormous losses every year. An effort has been made to stimulate the development of small packing houses equipped with special feeding stations and supplied with refrigeration for storage preliminary to transportation to market. A number of these plants have been built and have served as practical demonstrations to the poultrymen in the surrounding regions. The investigations of the department have shown that poultry fed in them, in accordance with the methods worked out by the Food Research Laboratory, will gain approximately 30 per cent in weight within a period of 14 days. The work, therefore, has a very direct bearing upon the meat supply of the country. After the fleshing process the birds are dressed and shipped in carload lots from the small packing houses with practically no waste or decay. Eggs are also handled in the demonstration plants, chilled immediately, and shipped under refrigeration, thereby greatly reducing losses from spoilage. Very satisfactory results have been secured up to the present time and it seems very desirable to extend and develop the work during the next fiscal year.





*Poultry and egg demonstrations.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialist in poultry and egg handling.....per annum....	\$3,000	1	1
Investigators in poultry and egg handling.....do.....	2,520	2	2
Specialist in poultry handling.....do.....	2,500	1	1
Assistants.....do.....	1,800	2	
Do.....do.....	1,620	2	
Biological chemist.....do.....	1,440	1	1
Assistant in poultry and egg handling.....do.....	1,440	1	1
Do.....do.....	1,200	2	2
Assistant in poultry handling.....do.....	1,200	1	1
Assistant.....per diem.....	5	1	
Salaries.....		\$24,000	\$10,865
Other objects of expenditure:			
Traveling expenses.....		24,000	6,500
Equipment and material.....		1,000	2,000
Miscellaneous items.....		1,000	635
Total.....		50,000	20,000

## 2. SIRUP DEMONSTRATIONS.

Allotment, 1918.....	\$7,000
Estimate, 1919.....	7,000

In Georgia, Alabama, and Florida there are large areas suitable for the growth of sugar cane for use in the production of sirup. The progress of this industry has been slow because of the technical difficulties involved. One of these is due to the fact that, if concentrated too far, cane juice will crystallize and become unmerchantable. On the other hand, if not concentrated far enough, it will ferment. The second difficulty encountered by the sirup maker is the variability in the flavor and color of his product. Under the regular appropriations of the Bureau of Chemistry methods have been worked out for overcoming these difficulties, and by their adoption it has been possible to produce a sirup that will not crystallize or ferment and that is superior in quality to the ordinary commercial product. With the allotment of \$7,000 under the food production act it has been possible to intensify the demonstration of these methods in an effort to stimulate the production of this valuable sirup. These methods, if followed, will prevent the very serious losses from spoilage of a considerable portion of each year's crop.

The results of the present year's work have been very encouraging, and it seems desirable to continue the demonstrations at the places where work has been done this year and to make demonstrations in other localities next year.

*Sirup demonstrations.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Specialist in manufacture of cane sirup.....per diem....	\$5		1
Assistant.....per annum....	2,520	1	
Do.....do.....	480	1	
Salaries.....		\$3,000	\$500
Other objects of expenditure:			
Traveling expenses.....		1,000	1,800
Equipment and material.....		2,500	4,300
Miscellaneous items.....		500	400
Total.....		7,000	7,000



## 3. PREPARATION OF SWEET SIRUPS.

Estimate, 1919..... \$5,000

While cane sugar is commonly used as a sweetening agent in crystalline form, there appears to be no reason why solutions of sweet and wholesome sugars should not be used for the same purpose if they were available. The number of plants that yield crystalline cane sugar in amounts that are of industrial importance are few, and only the sugar beet and the sugar cane are of much importance in this respect. On the other hand, there are a great many plants and fruits, as, for example, the grape, which yield sweet juices. These juices always carry a characteristic flavor of the plant source and usually are considerably colored, but it has been demonstrated in the laboratory that both the color and the characteristic flavor can be removed by the use of active wood charcoal. In this way a sirup can be made from grapes, for instance, which is colorless and quite sweet and without any characteristic flavor other than sweetness to indicate its origin. It is possible that sweet sirups of similar type may also be obtained from other plant sources.

The work proposed under this project will consist of a further study of the preparation of active charcoal and the preparation of sweet sirups from a variety of agricultural products, especial emphasis to be laid upon the production, on a commercial scale, if possible, of sirup from grapes. The present need for sugar and the desirability of finding uses for the large quantities of grapes that have hitherto been used in wine production in the United States emphasize the importance of this work.

*Preparation of sweet sirups.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Chemist.....	\$2,520	1 (part time).	.....
Do.....	1,800	1 (part time).	.....
Assistant.....	1,200	1 (part time).	.....
Salaries.....		\$2,500	.....
Other objects of expenditure:			
Traveling expenses.....		500	.....
Equipment and material.....		1,500	.....
Miscellaneous items.....		500	.....
Total.....		5,000	.....

## 4. HANDLING, TRANSPORTATION, AND STORAGE OF FISH.

Allotment, 1918..... \$15,000

Estimate, 1919..... 20,000

Increase..... 5,000

There is need for the greater utilization of sea foods, the production of which can be increased without any appreciable tax on the common sources of food supply. Under the \$15,000 allotment from the emergency appropriation during the current fiscal year demonstration work has been under way in fish-producing sections, notably the coasts of Florida and North Carolina, to maintain a steady flow of fish in good order to northern and western markets. A man is now working in Florida, in cooperation with the Bureau of Fisheries, which is stimulating production. Similar work is being organized on the Carolina coast. Three men are at work on the Pacific coast.

Attention has recently been given to the establishment of fish freezers at certain points on the Gulf coast, notably Pensacola and Punta Gorda, Fla., both of which are excellent shipping points. It will be possible to install such freezers at small cost in conjunction with artificial ice plants already in operation. There are available in enormous quantities in Florida many varieties of small fish suitable for high-grade canned products. With the installation of freezers large quantities of these small fish can be frozen during the flush season and canned after the run is over. Investigations are now under way to determine the feasibility of canning frozen fish and the best methods to use.

The fresh fish supply this year is short. Transportation conditions make the best of handling imperative. Losses due to decay have been unusually heavy. The advice, assistance, and presence of the Government men on the coasts are a direct stimulus to greater and better fish supply in the markets, and it is desired to continue and extend this work.





Handling, transportation, and storage of fish.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries:			
Food-investigation chemist.....	\$3,000	1	<sup>1</sup> 1
Dairy bacteriologist.....	2,040	1	<sup>1</sup> 1
Specialist in fish handling.....	1,500	1	<sup>1</sup> 1
Assistant in fish investigations.....	1,440	1	1
Specialist in fish handling.....	1,200	1	<sup>1</sup> 1
Do.....	1,000	2	<sup>1</sup> 2
Salaries.....		\$11,000	\$6,040
Other objects of expenditure:			
Traveling expenses.....		7,000	5,000
Equipment and material.....		1,500	3,060
Miscellaneous items.....		500	900
Total.....		20,000	15,000

<sup>1</sup> Part time.

5. WATERPROOFING LEATHER FOR GOVERNMENT AND FARM USE.

Estimate, 1919..... \$3,000

For several years the Bureau of Chemistry has been carrying on investigations regarding the waterproofing of leather for Government and farm use. The funds available for the purpose, however, are very limited, and it has been impossible to prosecute the work as rapidly as its importance justifies. War conditions have emphasized the urgency of the work and make it necessary further to develop it in order to supply information regarding waterproofing and preservative materials needed by the purchasing branches of the Government. It is proposed, if additional funds are provided, to make careful tests of commercial waterproofing and preservative materials, as well as of the formulas developed by the Bureau of Chemistry, in order to determine their value for waterproofing and their preservative qualities, as well as their freedom from harmful ingredients. These investigations will be of benefit not only to the army and navy but also to the farmer and, in fact, wherever leather is used.

The Council of National Defense, for which the department is doing all testing of the water and mildew resistance of fabrics for army use, has requested that a process for water and mildew proofing that can be applied as a spray be devised to meet the needs of the army. This work is being done under the regular appropriations of the Bureau of Chemistry, one man giving about one-half of his time to the project. The regular funds, however, are not sufficient to enable the bureau to undertake the necessary experiments and tests with reference to the waterproofing of leather.

Waterproofing leather for Government and farm use.

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		Number.	Number.
Salaries, junior chemist.....	\$1,620	1	
Salaries.....		\$1,620	
Other objects of expenditure:			
Traveling expenses.....		800	
Equipment and material.....		400	
Miscellaneous items.....		180	
Total.....		3,000	

6. SERVICEABILITY TESTS OF LEATHER AND LEATHER SUBSTITUTES.

Estimate, 1919..... \$6,000

The Bureau of Chemistry is already\* conducting under regular funds investigations to determine the wearing qualities of leather and leather substitutes, two men devoting a part of their time to the project. Recently the cooperation of the War Department and the National Association of Tanners has been secured. The amount being expended during the current year under regular appropriations is \$1,700.



Additional funds are necessary in order to conduct on an adequate scale actual wearing experiments to determine the relative merits of various tannages of leather, both sole and upper, and also of sole leather substitutes. This information will be of value to the farmers and the people at large, as it will aid materially in the conservation of raw materials, namely, hides and vegetable tanning materials. It is also urgently needed to assist the War Department in the present emergency in selecting durable and serviceable materials and in preparing specifications therefor.

The existence of a large army provides an excellent and timely opportunity to conduct these experiments under conditions favorable to their successful conclusion and also to obtain the service history of a large number of samples, which data and samples will be of inestimable value in developing a machine for determining the serviceability of soling materials. Increased facilities will enable the department to make these experiments more extensive and conclusive and to conduct them more expeditiously, so that the results may be immediately available for war purposes.

*Serviceability tests of leather and leather substitutes.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Junior chemist.....	\$1,620	1	.....
Chemist's aid.....	1,000	1	.....
Assistant.....	1,200	1	.....
Salaries.....		\$3,820	.....
Other objects of expenditure:			
Travelling expenses.....		1,180	.....
Equipment and material.....		600	.....
Miscellaneous items.....		400	.....
Total.....		6,000	.....

7. UTILIZATION OF WOOL-SCOURING WASTES.

Estimate, 1919..... \$9,000

There are approximately 500,000,000 pounds of unscoured wool used in this country annually. This contains approximately 75,000,000 pounds of wool grease, worth normally \$2,250,000 (at present time, \$10,000,000), and 25,000,000 pounds of potassium carbonate, worth normally \$750,000 (at the present time, \$15,000,000). Practically all the potassium carbonate and the greater part of the wool grease is allowed to waste. The potassium carbonate is urgently needed in glass, soap, and explosive manufacture, while the experiments of the Bureau of Chemistry have shown that wool grease is one of the most effective materials for waterproofing shoe leather. Great quantities of waterproofing materials will be needed for the shoes of the American armies, and wool grease, which can not be used for food or soap making, is urgently needed for this purpose. The present supply is inadequate, and there has been an increase of 500 per cent in the price of this product. Practical methods for the recovery of wool grease and of potassium carbonate should be developed and put into operation in the chief wool-scouring plants in this country.

In addition to the recovery of these important materials, now entirely wasted, the work would result in preventing the pollution of streams now occasioned by running the scouring wastes into the rivers.

*Utilization of wool-scouring wastes.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Chemical engineer.....	\$2,500	1	.....
Junior chemist.....	1,620	1	.....
Salaries.....		\$4,120	.....
Other objects of expenditure:			
Travelling expenses.....		2,000	.....
Equipment and material.....		2,000	.....
Miscellaneous items.....		880	.....
Total.....		9,000	.....





## BUREAU OF ENTOMOLOGY.

## 1. EXTENSION WORK IN BEEKEEPING.

Allotment, 1918.....	\$15,000
Estimate, 1919.....	15,000

Extension workers have been holding special meetings for beekeepers as rapidly as they can be arranged by the extension divisions of the several State colleges. These meetings are held at this time especially to bring to the attention of beekeepers the need of increasing the honey crop in 1918 and the importance of so handling their bees as to receive the maximum output next summer. Beekeepers are also being urged to arrange to buy or lease unproductive colonies near by and to establish more apiaries by the purchase of such colonies rather than by the division of their present colonies. The importance of making immediate provision for next season's supplies has also been brought to their attention.

The allotment from regular appropriations for extension work in beekeeping during the current fiscal year is \$8,360, which together with the \$15,000 from emergency funds makes a total of \$23,360 for this purpose. With this amount it will be possible to employ from 8 to 10 field agents.

The regular agricultural appropriation bill for the fiscal year 1919 provides an increase of \$15,000 for demonstration work in beekeeping, the amount estimated for this purpose under emergency funds remaining the same as for the present year. With this \$15,000 it is proposed to employ six additional agents.

The need of extension work in beekeeping is acute, and the State extension divisions have shown such an eagerness to cooperate in this effort that the field work could be doubled to advantage during the year 1919. The amount of wasted nectar is so great that it would seem justifiable, especially in the present emergency, to further commercial beekeeping as rapidly as possible. This will assist in relieving the sugar situation and will also serve to reestablish beekeeping in its proper place in American agriculture. The effort will, therefore, result in permanent benefit.

*Extension work in beekeeping.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Salaries:		<i>Number.</i>	<i>Number.</i>
Special field agents.....	\$1,500	16	3
Do.....	1,400		1
Do.....	1,200		3
Salaries.....		\$9,000	\$5,540
Other objects of expenditure:			
Stationery.....		200	150
Traveling expenses.....		4,800	6,630
Equipment and material.....		100	600
Telephone and telegraph service.....		400	150
Miscellaneous items.....		500	1,930
Total.....		15,000	15,000

13 new.

## BUREAU OF BIOLOGICAL SURVEY.

## 1. CONTROL OF NOXIOUS RODENTS.

Allotment, 1918.....	\$28,000
Estimate, 1919.....	100,000
Increase.....	72,000

The funds allotted to this work under the food production act are being utilized for the control of rodent pests in eight Western States, in cooperation with the State authorities.

It is conservatively estimated that a loss of \$150,000,000 annually, largely in cereals, is suffered from the depredations of native rodents, chiefly prairie dogs, ground squirrels, pocket gophers, and meadow and pine mice, and \$200,000,000, mostly foodstuffs, from house rats and mice. The latter amount does not include indirect losses occasioned by human diseases disseminated by rats and the necessary expenditures in combating them.



Work already accomplished in the extermination of rodents proves conclusively that an enormous saving in grain and forage crops can be effected directly and economically in this way. The work has proved so effective and has served such a definite need of farmers and stockmen that the department is receiving requests for assistance in controlling these pests from all parts of the West far in excess of its ability to meet them. Large sums are already pledged by States, counties, farm bureaus, and stockmen's associations to provide poison supplies for the cooperative campaigns planned under project agreements with State extension departments, in addition to large contributions of labor and materials which will be furnished by cooperators. The department should be enabled to provide trained leadership for the campaigns and to adequately protect crops and range from the depredations of rodents coming from Government lands adjacent to the private holdings being cleared of these pests in the cooperative campaigns.

*Control of noxious rodents.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Biological assistants.....	\$1,600	8	18
Do.....	1,200		24
Wages, laborers.....	900	20	210
Salaries.....		\$12,800.00	\$5,466.66
Wages.....		18,000.00	2,250.00
Other objects of expenditure:			
Traveling expenses.....		14,200.00	5,000.00
Equipment and material.....		50,000.00	6,050.00
Miscellaneous items.....		5,000.00	1,852.00
Total.....		100,000.00	20,618.66

14 months.

23 months.

## 2. DESTRUCTION OF PREDATORY ANIMALS.

Allotment, 1918.....	\$34,000
Estimate, 1919.....	125,000
Increase.....	91,000

During the current fiscal year \$34,000 has been allotted for the extension campaign to eradicate predatory animals in regions where the losses of live stock from this cause have been especially severe, the work covering six States. The destructiveness of predatory animals on the western ranges results in a serious decrease of the available meat supply. The Forest Service estimates that each wolf causes an annual loss in stock amounting to \$1,000. Coyotes are much more numerous than wolves, and the aggregate of losses caused by them is enormous. The Utah Wool Growers' Association reports losses to sheep herds in Utah and adjacent States from the ravages of predatory animals aggregating 500,000 head annually. In addition to the immense meat loss represented this involves the loss of about 4,000,000 pounds of wool annually. The New Mexico Agricultural College reports that predatory animals destroy annually 3 per cent of the cattle in New Mexico, amounting to a total loss each year of about 34,350 head, and also destroy about 165,000 head of sheep, with a resulting decrease of about 16,000,000 pounds of meat and 1,320,000 pounds of wool annually. The number of horses killed annually by predatory animals in New Mexico alone is estimated at 850, making a total aggregate annual loss in New Mexico from the depredations of predatory animals of \$2,715,250. The work of the Bureau of Biological Survey is well organized in every stock-raising State, and additional money can be used to great advantage in directly decreasing the drain on the live-stock resources of the country from predatory animals.

The department under its regular appropriations has destroyed a great many predatory animals, resulting in saving large numbers of live stock from destruction by wolves, coyotes, and other predatory animals. That this work is exceedingly helpful and popular with the stockmen is shown by the increased cooperation and financial support which is constantly being given the work by States and stockmen's associations. The seriousness of the losses and the efficiency of the work already accomplished emphasize the need for its enlargement.





*Destruction of predatory animals.*

Employees.	Rate per annum.	Required for 1919.	Estimated expenditures for 1918.
Wages:		<i>Number.</i>	<i>Number.</i>
Temporary laborers (hunters, trappers, etc., and including horses and equipment).....	\$1,500	5	<sup>1</sup> 12
Do.....	1,380	10	<sup>1</sup> 12
Do.....	1,200	15	<sup>1</sup> 13
Do.....	1,020	40	<sup>1</sup> 14
Do.....	960	30	4
Wages.....		\$108,900	\$30,030
Other objects of expenditure:			
Traveling expenses.....		4,000	1,500
Equipment and material.....		8,000	1,500
Miscellaneous items.....		4,100	970
Total.....		125,000	34,000

<sup>1</sup> Ten for 3 months.

## BUREAU OF CROP ESTIMATES.

## 1. SPECIAL WORK IN CROP ESTIMATING.

Allotment, 1918.....	\$58,784.20
Estimate, 1919.....	234,540.00
Increase.....	175,755.80

The demand for estimates of crop and live-stock production, supplies of food and feed, and other factors relating to the present and future food supply has been constant and insistent since the beginning of the European war. The Bureau of Crop Estimates, even with the funds allotted under the provisions of the food production act, has been able to meet this demand only in part. With the emergency funds, the field agents in a number of the States have been supplied with limited clerical assistance and office equipment and given a small allowance for additional travel, thus permitting them in a small way to undertake the additional labor of preparing estimates of crops not heretofore included in the reports of the bureau and of acreage, production, stocks, storage capacity, etc., by counties. It has been possible also to assist the Bureau of Markets by making surveys of the food stocks on farms and to make a more thorough canvass of the commercial trucking areas, to issue weekly and semimonthly reports on truck-crop conditions, and to furnish the Bureau of Markets, the Food Administration, and other Government agencies with certain special information.

The force and facilities of the Bureau of Crop Estimates, however, are still far from adequate. Full and accurate information regarding various phases of agricultural production is highly important and absolutely essential to the effective prosecution of the emergency activities of the Government. The estimates of crop acreages, condition, and yields, of stocks in farmers' hands, of the number, condition, and losses of live stock, of prices paid to producers, and other similar data, have heretofore been prepared on the basis of the State as a unit. The gradual improvement in its facilities, particularly through the creation of a force of field agents, has enabled the Bureau of Crop Estimates to reach the best sources of accurate information and to check the outturn of the harvests by a study of the commercial movements of farm products and by other lines of investigation, with the result that its estimates are now generally regarded as substantially correct and accepted as authoritative. An insistent demand has developed not only for additional items of information, such as feed and food supplies on farms and in farm homes, seed supplies, etc., and for data concerning products not hitherto considered, but also for information by counties on the present subjects of inquiry. This need is voiced from many quarters, but the greatest necessity is in behalf of the United States Food Administration.

With the funds available under the food production act a beginning has been made in these directions, but the present situation makes it necessary further to strengthen and enlarge the crop-estimating work. Additional funds also are needed to enable the Division of Truck Crops to cooperate effectively with the market news service of the Bureau of Markets and to keep the Food Administration informed of the rapidly changing conditions in connection with quickly maturing perishable crops, as well as to enable farmers to regulate their plantings in different regions to accord with the market situation.

A list of county reporters has long been maintained by the Bureau of Crop Estimates who report voluntarily for their respective counties on crops and live stock. With the great



enlargement of the service in recent years, the number of inquiries addressed to these men has greatly increased, and it has been exceedingly difficult to retain their services. To secure the best results, therefore, it is essential that provision be made for the establishment of a list of county farmers by formal appointment at a nominal salary, at least sufficient to save them from loss of personal funds for telephone calls and other expenses incident to the preparation of dependable county estimates. The county agents are not available for crop-estimating work. They are overwhelmed with their regular activities.

The following is a summary of the estimate for the Bureau of Crop Estimates:

(1) <i>General crops and live stock.</i>	
(a) Field expenses:	
Extra travel for 42 field agents in connection with county surveys, at \$300 each.....	\$12, 600
One clerk each in 42 field offices, at \$900 each.....	37, 800
2,850 county reporters, at \$50 per annum each.....	142, 500
(b) Expenses in Washington:	
Clerical assistance.....	16, 160
Stationery and supplies.....	4, 000
	<hr/> \$213, 060
(2) <i>Truck crops.</i>	
2 assistant truck-crop specialists, at \$1,800 each.....	3, 600
Traveling expenses of 2 specialists.....	5, 000
25 special reporters to send in weekly telegraph reports, at \$300 each.....	7, 500
Clerical assistance.....	4, 080
Telegraphic allowance.....	1, 300
	<hr/> 21, 480
Total.....	<hr/> 234, 540

*Special work in crop estimating.*

Employees.	Rate.	Required for 1919.	Estimated expenditures for 1918.
		<i>Number.</i>	<i>Number.</i>
Salaries:			
Assistant truck crop specialist..... per annum..	\$1, 800	2	
Clerks..... do.....	1, 620	1	
Do..... do.....	1, 230	7	2
Do..... do.....	1, 000	4	2
Do..... do.....	990		5
Do..... do.....	900	42	125
Do..... do.....	792		1
Do..... do.....	780		1
Do..... do.....	720		10
Do..... do.....	660		1
Do..... do.....	600		3
Do..... do.....	480	2	1
Do..... do.....	420		1
Collaborating clerks..... do.....	300		7
Messenger..... do.....	840	1	
Messenger boys..... do.....	480	2	2
Clerks, for temporary periods, aggregating \$3,700 for 1918 and \$3,000 for 1919..... per diem..	2 to 3		
County reporters..... per annum..	850	2, 850	
Special truck crop reporters..... do.....	300	25	
Wages:			
Laborers..... do.....	720	2	1
Skilled laborers..... do.....	300		6
Salaries.....		\$210, 200.00	\$27, 080.00
Wages.....		1, 440.00	2, 120.00
Other objects of expenditure:			
Stationery and supplies.....		4, 000.00	6, 800.00
Traveling expenses.....		17, 600.00	12, 000.00
Equipment and material.....			10, 025.00
Telegraph and telephone service.....		1, 300.00	
Miscellaneous items.....			759.20
Total.....		234, 540.00	58, 784.20

<sup>1</sup> 13 temporary.





## SUMMARY OF ESTIMATES.

### I.

For the prevention, control, and eradication of the diseases and pests of live stock; the enlargement of live-stock production; and the conservation and utilization of meat, poultry, dairy, and other animal products, \$1,269,655:

Bureau of Animal Industry—	
1. Eradication of cattle ticks.....	\$191, 190
2. Eradication of hog cholera.....	202, 965
3. Eradication of abortion, influenza, strangles, etc.....	175, 000
4. Production of beef cattle.....	105, 000
5. Live-stock production in the Great Plains region.....	100, 000
6. Production of pork.....	150, 000
7. Production of poultry.....	168, 000
8. Production of sheep.....	60, 000
9. Making cottage cheese on the farm.....	80, 000
10. Utilization of creamery by-products.....	37, 500
Total (I).....	\$1, 269, 655

### II.

For procuring, storing, and furnishing seeds, as authorized by section 3 of the act, \$8,000,000, and this fund may be used as a revolving fund until June thirtieth, nineteen hundred and nineteen:

Bureau of Plant Industry—	
1. Purchase and sale of seed.....	8, 000, 000

### III.

For the prevention, control, and eradication of insects and plant diseases injurious to agriculture and the conservation and utilization of plant products, \$911,300:

Bureau of Plant Industry—	
1. Cereal-smut eradication.....	\$110, 000
2. Peanut conservation and utilization.....	15, 000
3. Control of cotton, truck, and forage-crop diseases.....	137, 550
4. Farm storage of sweet potatoes.....	30, 000
5. Location of Irish potato seed stocks.....	30, 000
6. Plant-disease survey.....	23, 000
7. Castor-bean production and utilization.....	20, 000
8. Maintenance of field-bean seed supply.....	10, 000
9. Field supervision of war-garden work.....	7, 500
10. Production of cereals and grain sorghums.....	53, 250
11. Sugar-beet nematode work.....	10, 000
12. Pathological inspection of fruits during processes of marketing.....	18, 000
13. Control of a new sugar-cane disease.....	20, 000
14. Production of rice.....	5, 000
	489, 300
Bureau of Entomology—	
1. Control of cereal and forage insects.....	55, 000
2. Control of stored-product insects.....	22, 000
3. Control of vegetable and truck-crop insects.....	35, 000
4. Control of sweet-potato weevil.....	50, 000
5. Control of deciduous-fruit insects.....	45, 000
6. Control of citrus-fruit insects.....	10, 000
7. Control of insects injurious to live stock.....	20, 000
8. Control of rice insects.....	3, 000
9. Control of sugar-cane insects.....	9, 000
10. General supervision of emergency insect-control work.....	3, 000
	252, 000



## For the prevention, control, and eradication of insects and plant diseases, etc.—Continued.

Bureaus of Chemistry, Markets, and Plant Industry—		
1. Prevention of plant-dust explosions and fires.....		\$135,000
(a) Thresher explosions and fires—		
Bureau of Plant Industry.....	\$10,000	
Bureau of Chemistry.....	10,000	
Bureau of Markets.....	15,000	
		\$35,000
(b) Mill and elevator explosions and fires—		
Bureau of Chemistry.....	40,000	
Bureau of Markets.....	10,000	
		50,000
(c) Cotton-gin explosions and fires—		
Bureau of Chemistry.....	40,000	
Bureau of Markets.....	10,000	
		50,000
		135,000
Bureaus of Chemistry and Plant Industry—		
1. Fruit and vegetable utilization.....		35,000
Bureau of Plant Industry.....	\$15,000	
Bureau of Chemistry.....	20,000	
		35,000
Total (III).....		\$911,300

## IV.

For increasing food production and eliminating waste and promoting conservation of food by educational and demonstrational methods, through county, district, and urban agents and others, \$6,100,000.

States Relations Service—		
1. General administration of extension work.....		\$35,000
2. Home-economics work.....		25,000
3. Extension work in the Northern and Western States—		
(a) Supervision.....	\$134,200	
(b) County-agent work.....	1,893,000	
(c) Boys' and girls' club work.....	382,900	
(d) Home-demonstration work.....	1,327,400	
		3,737,500
4. Extension work in the Southern States—		
(a) Supervision.....	90,000	
(b) County-agent work.....	1,333,815	
(c) Boys' club work.....	75,300	
(d) Home-demonstration work.....	803,385	
		2,302,500
Total (IV).....		6,100,000

## V.

For gathering authoritative information in connection with the demand for and the production, supply, distribution, and utilization of food, and otherwise carrying out the purpose of section two of the act; extending and enlarging the market news service; and preventing waste of food in storage, in transit, or held for sale; advice concerning the market movement or distribution of perishable products; for enabling the Secretary of Agriculture to inspect and certify perishable agricultural products, as provided in the agricultural appropriation act for the fiscal year nineteen hundred and nineteen, \$2,368,958:

Bureau of Markets—		
1. Market news service on fruits and vegetables.....		\$601,770
2. Market news service on live stock and meats.....		431,160
3. Market news service on butter, cheese, eggs, and poultry.....		164,000
4. Market news service on grain, hay, feeds, and seeds.....		180,720
5. Food and fertilizer surveys of the United States.....		449,700
6. Conservation of food products in transportation and storage.....		229,937
7. Market inspection of perishable foods.....		51,000
8. City market service.....		66,131
9. Direct marketing activities.....		85,100
10. Special marketing activities.....		109,440
Total (V).....		2,368,958





## VI.

For miscellaneous items, including the salaries of Assistant Secretaries appointed under the act approved August tenth, nineteen hundred and seventeen; special work in crop estimating; aiding agencies in the various States in supplying farm labor; enlarging the informational work of the Department of Agriculture; and printing and distributing emergency leaflets, posters, and other publications requiring quick issue or large editions, \$1,080,980, of which sum not exceeding \$15,000 shall be available for rent in the District of Columbia:

General administration (Office of the Secretary).....	\$76, 420	
Publication and informational work.....	235, 000	
Agricultural exhibits.....	18, 020	
Rent.....	15, 000	
Assistance in supplying farm labor.....	162, 000	
Bureau of Chemistry—		
1. Poultry and egg demonstrations.....	\$50, 000	
2. Sirup demonstrations.....	7, 000	
3. Preparation of sweet sirups.....	5, 000	
4. Handling, transportation, and storage of fish.....	20, 000	
5. Waterproofing leather for Government and farm use.....	3, 000	
6. Serviceability tests of leather and leather substitutes.....	6, 000	
7. Utilization of wool-scouring wastes.....	9, 000	
		100, 000
Bureau of Entomology—		
1. Extension work in beekeeping.....		15, 000
Bureau of Biological Survey—		
1. Control of noxious rodents.....	100, 000	
2. Destruction of predatory animals.....	125, 000	
		225, 000
Bureau of Crop Estimates—		
1. Special work in crop estimating.....		234, 540
Total (VI).....		\$1, 080, 980
Grand total.....		19, 730, 893



## FOOD PRODUCTION ACT.

[PUBLIC—No. 40—65TH CONGRESS.]

AN ACT To provide further for the national security and defense by stimulating agriculture and facilitating the distribution of agricultural products.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That, for the purpose of more effectually providing for the national security and defense and carrying on the war with Germany by gathering authoritative information concerning the food supply, by increasing production, by preventing waste of the food supply, by regulating the distribution thereof, and by such other means and methods as are hereinafter provided, the powers, authorities, duties, obligations, and prohibitions hereinafter set forth are conferred and prescribed.

SEC. 2. That the Secretary of Agriculture, with the approval of the President, is authorized to investigate and ascertain the demand for, the supply, consumption, costs, and prices of, and the basic facts relating to the ownership, production, transportation, manufacture, storage, and distribution of, foods, food materials, feeds, seeds, fertilizers, agricultural implements and machinery, and any article required in connection with the production, distribution, or utilization of food. It shall be the duty of any person, when requested by the Secretary of Agriculture, or any agent acting under his instructions, to answer correctly, to the best of his knowledge, under oath or otherwise, all questions touching his knowledge of any matter authorized to be investigated under this section, or to produce all books, letters, papers, or documents in his possession, or under his control, relating to such matter. Any person who shall, within a reasonable time to be prescribed by the Secretary of Agriculture, not exceeding thirty days from the date of the receipt of the request, willfully fail or refuse to answer such questions or to produce such books, letters, papers, or documents, or who shall willfully give any answer that is false or misleading, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine not exceeding \$1,000 or by imprisonment not exceeding one year, or both.

SEC. 3. That whenever the Secretary of Agriculture shall find that there is or may be a special need in any restricted area for seeds suitable for the production of food or feed crops, he is authorized to purchase, or contract with persons to grow such seeds, to store them, and to furnish them to farmers for cash, at cost, including the expense of packing and transportation.

SEC. 4. That the Secretary of Agriculture is authorized to cooperate with such State and local officials, and with such public and private agencies, or persons, as he finds necessary, and to make such rules and regulations as are necessary effectively to carry out the preceding sections of this Act.

SEC. 5. That the President, by and with the advice and consent of the Senate, may appoint two additional Assistant Secretaries of Agriculture, who shall perform such duties as may be required by law or prescribed by the Secretary of Agriculture, and who shall each be paid a salary of \$5,000 per annum.

SEC. 6. That the President is authorized to direct any agency or organization of the Government to cooperate with the Secretary of Agriculture in carrying out the purposes of this Act and to coordinate their activities so as to avoid any preventable loss or duplication of work.

SEC. 7. That words used in this Act shall be construed to import the plural or the singular as the case demands, and the word "person," wherever used in this Act, shall include individuals, partnerships, associations, and corporations.

SEC. 8. That for the purposes of this Act, the following sums are hereby appropriated, out of any moneys in the Treasury not otherwise appropriated, available immediately and until June thirtieth, nineteen hundred and eighteen: For the prevention, control, and eradication of the diseases and pests of live stock; the enlargement of live-stock production; and the conservation and utilization of meat, poultry, dairy, and other animal products, \$885,000.

For procuring, storing, and furnishing seeds, as authorized by section three of this Act, \$2,500,000, and this fund may be used as a revolving fund until June thirtieth, nineteen hundred and eighteen.





For the prevention, control, and eradication of insects and plant diseases injurious to agriculture, and the conservation and utilization of plant products, \$441,000.

For increasing food production and eliminating waste and promoting conservation of food by educational and demonstrational methods, through county, district, and urban agents and others, \$4,348,400.

For gathering authoritative information in connection with the demand for, and the production, supply, distribution, and utilization of food, and otherwise carrying out the purpose of section two of this Act; extending and enlarging the market news service; and preventing waste of food in storage, in transit, or held for sale; advise concerning the market movement or distribution of perishable products; for enabling the Secretary of Agriculture to investigate and certify to shippers the condition as to soundness of fruits, vegetables, and other food products, when received at such important central markets as the Secretary of Agriculture may from time to time designate and under such rules and regulations as he may prescribe: *Provided*, That certificates issued by the authorized agents of the department shall be received in all courts as prima facie evidence of the truth of the statements therein contained; and otherwise carrying out the purposes of this Act, \$2,522,000: *Provided further*, That the Secretary of Agriculture shall, so far as practicable, engage the services of women for the work herein provided for.

For miscellaneous items, including the salaries of Assistant Secretaries appointed under this Act; special work in crop estimating; aiding agencies in the various States in supplying farm labor; enlarging the informational work of the Department of Agriculture; and printing and distributing emergency leaflets, posters, and other publications requiring quick issue or large editions, \$650,000.

*Provided*, That the employment of any person under the provisions of this Act shall not exempt any such person from military service under the provisions of the selective draft law approved May eighteenth, nineteen hundred and seventeen.

It shall be the duty of the Secretary of Agriculture to submit to Congress at its regular session in December of each year a detailed report of the expenditure of all moneys herein appropriated.

SEC. 9. That the Act of August thirtieth, eighteen hundred and ninety, entitled "An Act providing for an inspection of meats for exportation, prohibiting the importation of adulterated articles of food or drink, and authorizing the President to make proclamation in certain cases, and for other purposes" (Twenty-sixth Statutes at Large, page four hundred and fourteen), is hereby amended so as to authorize the Secretary of Agriculture, within his discretion and under such joint regulations as may be prescribed by the Secretary of Agriculture and the Secretary of the Treasury, to permit the admission for immediate slaughter at ports of entry of tick-infested cattle which are otherwise free from disease and which have not been exposed to the infection of any other disease within sixty days next before their exportation from Mexico, South and Central America, the islands of the Gulf of Mexico and the Caribbean Sea into those parts of the United States below the southern cattle quarantine line at such ports of entry as may be designated by said joint regulations and also subject to the provisions of sections seven, eight, nine, and ten of said Act of August thirtieth, eighteen hundred and ninety: *Provided*, That the importation of tick-infested cattle from any country referred to in this section in which foot-and-mouth disease exists, which existence shall be determined by the Secretary of Agriculture, is prohibited: *Provided further*, That all cattle imported under the provisions of this section shall be slaughtered in accordance with the provisions of the Act of June thirtieth, nineteen hundred and six (Thirty-fourth Statutes at Large, page six hundred and seventy-four), commonly called the meat inspection amendment, and the rules and regulations promulgated thereunder by the Secretary of Agriculture, and that their hides shall be disposed of under rules and regulations to be prescribed by the Secretary of Agriculture.

SEC. 10. That section six of the Act of Congress approved June seventeenth, nineteen hundred and ten, "An Act to provide for an enlarged homestead," be, and the same is hereby, amended to read as follows:

"SEC. 6. That whenever the Secretary of the Interior shall find any tracts of land in the State of Idaho, subject to entry under this Act, do not have upon them such a sufficient supply of water suitable for domestic purposes as would make continuous residence upon the lands possible he may, in his discretion, designate such tracts of land, not to exceed in the aggregate one million acres, and thereafter they shall be subject to entry under this Act without the necessity of residence upon the land entered: *Provided*, That the entryman shall in good faith cultivate not less than one-sixteenth of the entire area of the entry which is susceptible of cultivation during the first year of the entry, not less than one-eighth during the second year, and not



less than one-fourth during the third year of the entry and until final proof: *Provided further*, That after six months from the date of entry and until final proof the entryman shall be a resident of the State of Idaho."

SEC. 11. That the Secretary of the Interior is hereby authorized, in his discretion, to suspend during the continuance of this Act that provision of the Act known as the "Reclamation Act" requiring residence upon lands in private ownership or within the neighborhood for securing water for the irrigation of the same, and he is authorized to permit the use of available water thereon upon such terms and conditions as he may deem proper.

SEC. 12. That the provisions of this Act shall cease to be in effect when the national emergency resulting from the existing state of war shall have passed, the date of which shall be ascertained and proclaimed by the President; but the date when this Act shall cease to be in effect shall not be later than the beginning of the next fiscal year after the termination, as ascertained by the President, of the present war between the United States and Germany.

Approved, August 10, 1917.

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